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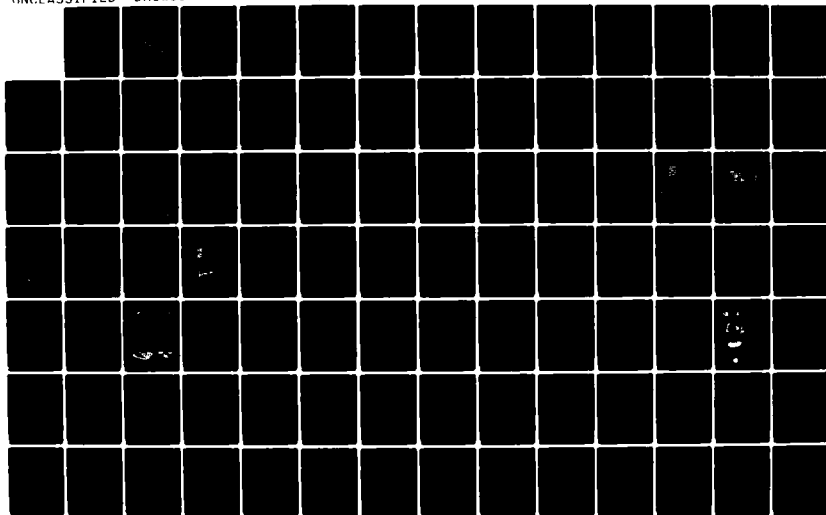
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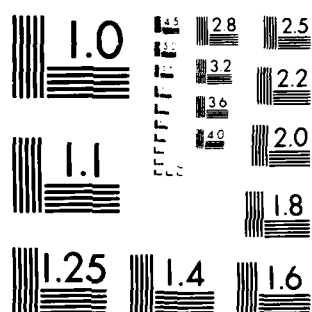
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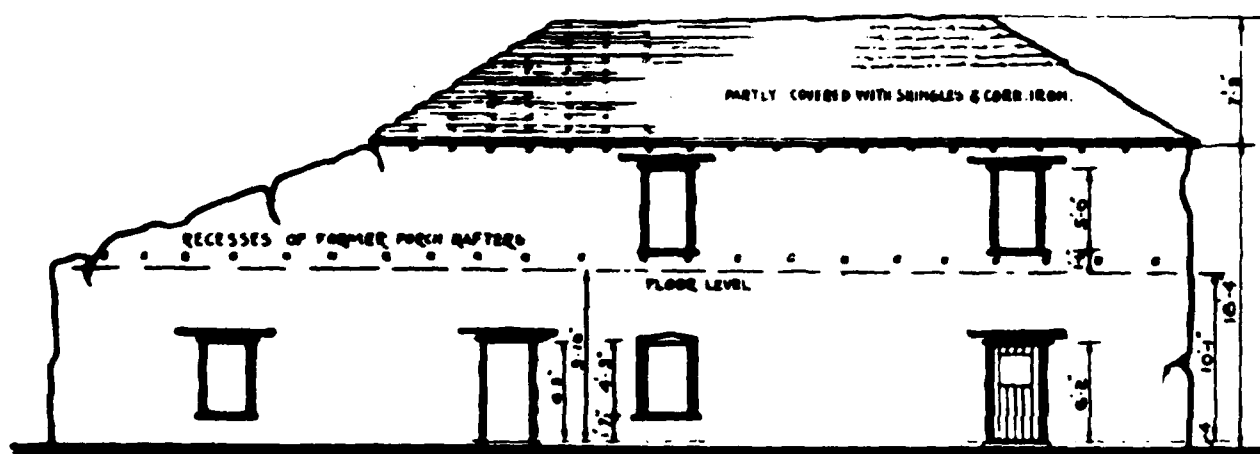




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THE
BANDINI-COTA
ADOBE



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ROBERTA S. GREENWOOD, JAY D. FRIERMAN, AND JOHN M. FOSTER

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THE BANDINI-COTA ADOBE,
PRADO DAM, RIVERSIDE COUNTY, CALIFORNIA

TEST EXCAVATION

ROBERTA S. GREENWOOD,
JAY D. FRIERMAN, AND
JOHN M. FOSTER

Prepared for the
U. S. Army Corps of Engineers, Los Angeles District
Contract No. DACW09-83-R-0002

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ABSTRACT

Test excavations have been conducted at the Bandini-Cota Adobe, Prado Dam, Riverside County, California, as the second phase of an investigation leading toward mitigation of adverse effects. The purposes were to contribute to public understanding of the site and to develop research questions for additional studies.

The results demonstrated the significant data potential of both sub-surface deposits of cultural materials and the remains of the structure itself. The features tested included two trash deposits and a hitherto unrecorded retaining wall. Two assemblages were defined and localized; Chinese, British, and Southern California Brown Ware ceramics, animal bone butchered in the Californio manner, and the first, discarded roof of the adobe represented the middle years of the nineteenth century. Later ceramics, glass, domestic discards, and later structural refuse were dated to 1870-1905. Some evidence and many new questions are discussed about the possible sequence and direction of alterations to the structure in light of architectural history.

Specific objectives and methods are outlined for continuing the investigations at this site which has the potential to be a prime source for information about ranch life and architecture during the brief but crucial period of transition from Hispanic Alta California to the modern industrial state created by new peoples, new technologies, and new needs.



A-1

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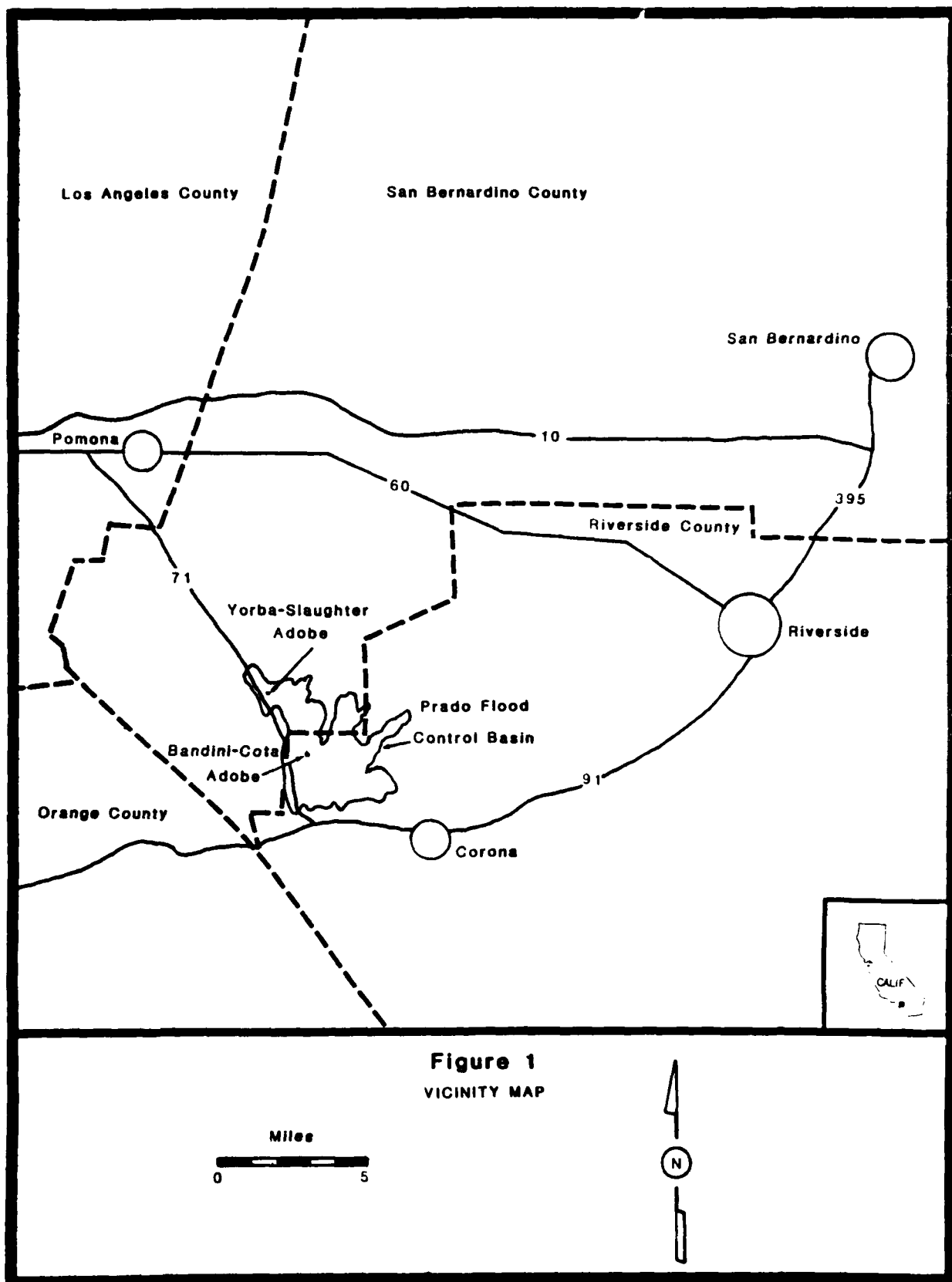
1. INTRODUCTION

Environmental Setting

The Bandini-Cota adobe, archaeologically designated as Riv-653H, is located in western Riverside County on a bluff north of the current bed of the Santa Ana River. Specific details about the hydrology, geology, soils, climate, etc., have been presented by Ahlborn (1982), and the general vicinity is depicted in Figure 1. The site is within the Prado Floor Control Basin administered by the U. S. Army Corps of Engineers, Los Angeles District. As late as 1936, the structure was essentially intact (Figures 15-18), although the roof was failing. In 1961, portions of the upper walls were still standing above the first floor ceiling, but deterioration has been rapid since then.

Don Juan Bandini was an uncommon man in early nineteenth century Alta California, and the placement of his adobe at the newly acquired Rancho el Rincon illustrates both his own sensibilities and traditional practise of the time. From the edge of the uplifted plain which forms the Pomona-Chino Valley, the location overlooks the broad flood plain of the Santa Ana River and affords unlimited visibility in all directions. Early photos show the flood plain as gently rolling, with occasional clusters of Coast Live Oak (Quercus agrifolia). The river which bordered the south side of the plain was lined with riparian woodland of willow, cottonwood, sycamore, and mule fat. Small tributaries drained the flood plain, and one ran at the foot of the bluff below the adobe. Although photographs dated 1926, 1939, and 1940 show the slope south of the adobe as nearly devoid of vegetation, it is presently densely overgrown, perhaps as a result of a higher water table.

The bluff on which the adobe stands was sufficiently high to protect it against the highest floods, but exposed it to the force of Santa Ana winds. Santa Ana canyon in both a wind and water gap. It allowed the daily onshore breezes which rise at midday to temper the intense summer heat and the fogs of spring to contribute welcome moisture.



but it is also the path of the most intense Santa Ana winds in southern California. These winds, which have, in fact, taken their name from the Santa Ana canyon, flow down from Cajon Pass through the canyon and on to the South Coastal Plain. This is generally where they reach their greatest intensity.

The valley is enclosed on all sides; to the east are the ramparts of the San Gabriel and San Bernardino Mountains with their coniferous forests, to the south rise the chaparral-covered Santa Ana Mountains and the Chino Hills, with the Jurupa Mountains to the southeast and the San José Hills on the northwest. The valley and flood plain were covered with the characteristic growth of forbs and perennial bunch grasses that form the Coastal Sage Scrub (Munz and Keck 1973:13-14). The vegetation provided excellent spring grazing on the upper terrace and fine year round forage on the well watered flood plain.

As recently as the 1930s, the valley was comparatively unaltered, retaining a picturesque rural ambiance. The mountains to the east and south afforded dramatic views, whereas today they are sometimes invisible for days at a time because of smog. The vegetation has also changed. Although the Santa Ana Mountains retain a cover of chaparral with oak groves in favored locations, the Coastal Sage Scrub of the Chino Hills has largely been replaced by a poor growth of exotic grasses. Long cultivation and heavy grazing on the upper terrace have left little native vegetation, vinegar weed (Trichostema lanceolatum) and turkey mullein (Eremanthus setigerus) being most common in the dry season. Exotics which have naturalized around the adobe include tomatillo (Physalis ixocarpa), tomato (Lycopersicon esculentum), and epozote (Chenopodium ambrosioides), all common food plants of Mexico.

The area most changed is the once rolling, oak-dotted flood plain. The construction of Prado Dam has resulted in annual flooding of the plain during the rainy season and an elevated water table throughout the year. The present cover is an extensive riparian woodland which

is dense and luxuriant. The principal tree is black willow (Salix gooddingii var. variabilis), interspersed with occasional cottonwoods (Populus sp.). The annual flooding also supports a narrow line of eucalyptus (Eucalyptus camaldulensis and probably other species) along the high water mark. This lush growth contrasts with the drier bluffs and ravines leading to the flood plain which contain the South American tree tobacco (Nicotiana glauca) and hummingbirds attracted to the yellow flowers.

Previous Studies

The most comprehensive recording and description of the structure is that provided by the drawings and photographs made by the Historic American Buildings Survey (HABS) in 1936 as part of Works Progress Administration Official Project No. 65-1715, survey Cal 332 (Appendix). These contain plans of the first and second floors, plus elevations and detail drawings of all four sides. The first archaeological site record provided by the University of California, Riverside, was made by Lesley McCoy in 1972; this located and designated the prehistoric component as Riv-653, while noting that the site was also recorded previously as Riv-556, cf. ARU 21. The adobe was accepted as a State Point of Historical Interest in 1969, and as Riverside County historical landmark Riv-029. The Corps of Engineers, Los Angeles District, prepared an Inventory Form of Historic Places in 1972, and completed nomination forms for the National Register of Historic Places in 1973, but the latter were never submitted.

As part of the environmental studies for the Santa Ana River Project, Prado Flood Control Basin, several reports were prepared by the Archaeological Research Unit and the Department of History, University of California, Riverside. During a resurvey in 1975, the following historical remains were mentioned:

...some light blue European crockery, 19th Century English white stoneware, early 19th Century China with a tea-leaf pattern (a possible cup fragment and cup handle fragment),

early 19th Century flown blue china with an acorn pattern, and some possible Stradfordshire (sic) ware (oak-leaf pattern). Porcelain (sic) fragments, probably 19th Century, were found to be of various colors, e.g., white, pink, light-green, and green. One thick porcelin (sic) fragment had a red-etched pattern. Purple, blue, green and red glass was found in a number of places and silverplated teaspoon (19th Century) was also observed. A fragment of a hand-forged oxen shoe was noted as well as several hand-forged nails and bolts (Hall 1975:III-3).

The site was discussed by ARU as ACE-SAR-H3. Both the structural remains and the archaeological site were evaluated as significant and eligible for nomination to the National Register (Leonard 1975:21). The site and those families associated with it figure prominently in many local histories and other secondary sources, but it is only recently that more systematic research programs have been undertaken.

As part of a phased mitigation program to mitigate the adverse effects resulting from the construction and operation of Prado Dam, the Corps of Engineers, Los Angeles District has initiated studies to ameliorate the loss of data occurring through the continuing deterioration of the structure itself and disturbance to the subsurface deposits by erosion, vegetation growth, and vandalism. The first phase of this program was the historical research, site mapping, and remote sensing investigation conducted by Theodoratus Cultural Research, Inc. (1983). The draft report and a series of photographs spanning the years from 1915 through 1961 were very useful in planning and implementing the work reported in this volume.

Purpose of the Investigation

The second phase of the mitigation program is defined as a limited archaeological test excavation. The guiding objectives of the field work are: 1) to sample and assess the archaeological potential of the site so that the results of Phases 1 and 2 may be combined to develop a research design for future efforts, and 2) to contribute to the public understanding and appreciation of the cultural heritage through site

visitation and the dissemination of informative reports. The field work was designed to recover certain sets of data, other than the kinds of information best derived from documentary and other forms of historical research, with the potential to illuminate a given period, a specific activity, or identifiable personages. Physical attributes of the site such as horizontal boundaries, depth, preservation of architectural information, or location of features were among the obvious priorities. Theoretical goals were related to the assumption that an adobe that was continuously occupied from 1841 to the beginning of the twentieth century by a series of notable California families would offer an unusual opportunity to examine the transition from a Pastoral Rancho society to an American southern California; cultural materials likely to be present and the data derived from analysis of artifacts and the structural remains would bear directly upon many historical and archaeological problems.

Certain research questions were identified even before the Phase 1 report was available: the directions and processes of cultural change as reflected in the assimilation and acculturation of the Californios; traditional conservatism and assimilation as reflected in the construction and remodeling of the adobe; and the nature of the contact and relations between the Indian and Hispanic groups, both represented at the site. Many specific questions were developed within each of these major domains; the potential of the site to provide data to address such inquiries, the synthesis with the historical information, and suggestions for continued research are developed in the concluding chapters following the presentation of the field work methods and results.

2. DESCRIPTION OF FIELD WORK

Organization and Personnel

The investigation designed in response to the Scope of Work was conducted from August 22 through September 3, 1983. Eight individuals were in the field full-time: Jay D. Frierman, principal investigator; John M. Foster, field director; Patricia Morse, laboratory technician; and Michael Bode, Daniel Larson, Naomi Peck, Gwendolyn Romani, and Lester Ross, excavators. Roberta S. Greenwood, program manager, was on the site for advance planning and three of the field days.

Supervision of field strategy and methods was shared by Frierman and Foster, with laboratory procedures directed by the former. Surveying and cartography were accomplished by Lester Ross, and all unit or trench profiles were verified and interpreted by Ross and Foster. The finished graphics from these sources were prepared by Tracy Foster, and a photographic record was maintained by the field director. In the preparation of this report, the field work is described by John Foster, the artifacts analyzed by Jay Frierman, and the adobe discussed by Roberta Greenwood. Architectural interpretations have been reviewed by Raymond Girvagian, F.A.I.A. All the authors, and Lester Ross, have contributed to the recommendations.

Constraints on the Investigation

The strategy advanced in the proposal of employing shallow blade scrapes to remove vegetation and overburden and thereby enhance the possibility of locating structural remains, features, or deposits not presently visible from the surface could not be utilized at this time because of the concurrent testing of the prehistoric component. During the period of this work, the boundaries and significance of the Indian site had not yet been determined. The use of mechanical equipment was accordingly restricted to three very limited trenches on slopes south and east of the adobe.

A different effect was prompted by the prevailing environment. The work schedule coincided with a period of consistently high temperatures, up to 110° F, unusually high humidity, and regular smog alerts, which undoubtedly somewhat slowed the team efforts. The deeper units were particularly airless and uncomfortable. The crew was carefully supervised for any symptoms of heat exhaustion, supplies of drinking water were maintained, and regular work breaks observed in the shade of the remaining trees.

Field Strategies

A combination of methods and techniques was utilized to realize the objectives of this investigation. Controlled units were excavated by hand tools with total screening, processing, and laboratory analysis to recover artifactual and faunal materials, examine stratigraphic profiles, and define structural remains. Shovel tests were utilized to test or examine areas of potential interest in a more expeditious manner. Auger borings, placed both judgementally and in non-random manner according to the established grid, provided broader - although more limited - testing of areas at a greater distance from the adobe. Mechanical trenching provided an exposure of two areas, already disturbed, where there was a potential for refuse deposits. Comprehensive survey and mapping was conducted to record all of these procedures (Figure 2), to assess the accuracy of existing documentation, and to provide a baseline map with reference to the structural remains to serve future studies.

Excavation Units

Four controlled units were excavated, with all soil screened through 1/4 in mesh. The basic dimension was 1 x 1 m, although two units were expanded for reasons described in the separate accounts which follow. They were dug in arbitrary 10 cm increments except where there was justification for contour levels. The locations are indicated on Figure 2, and volumes summarized on Table 1.

S50
+

S60
+

S70
+

S80
+

S90
+

S90/W60
+

← TCR datum is 60m west from S90/W60

S100

Possible linear depression

S110
+

Trench 2

S120
+

Trench 3

S130

W80
+

W70
+

W60
+

W50
+

W40
+

W30
+

W20
+

Elderberry trees

Cyclone fence

Pepper tree

Olive tree

Unit A

Shovel test 1

Unit D

Unit B

Feature 1

Feature 2

Shovel test 3

Shovel test 4

Trench 1

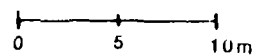
Unit

Ret

F

Figure 2

MAP OF PROJECT INVESTIGATIONS



□ Unit

○ Depression

△ Datum

P Auger test of phosphate area

⋯ Bluff line

⊕ Judgemental auger hole

○ Auger hole

x Precolumbian sherd

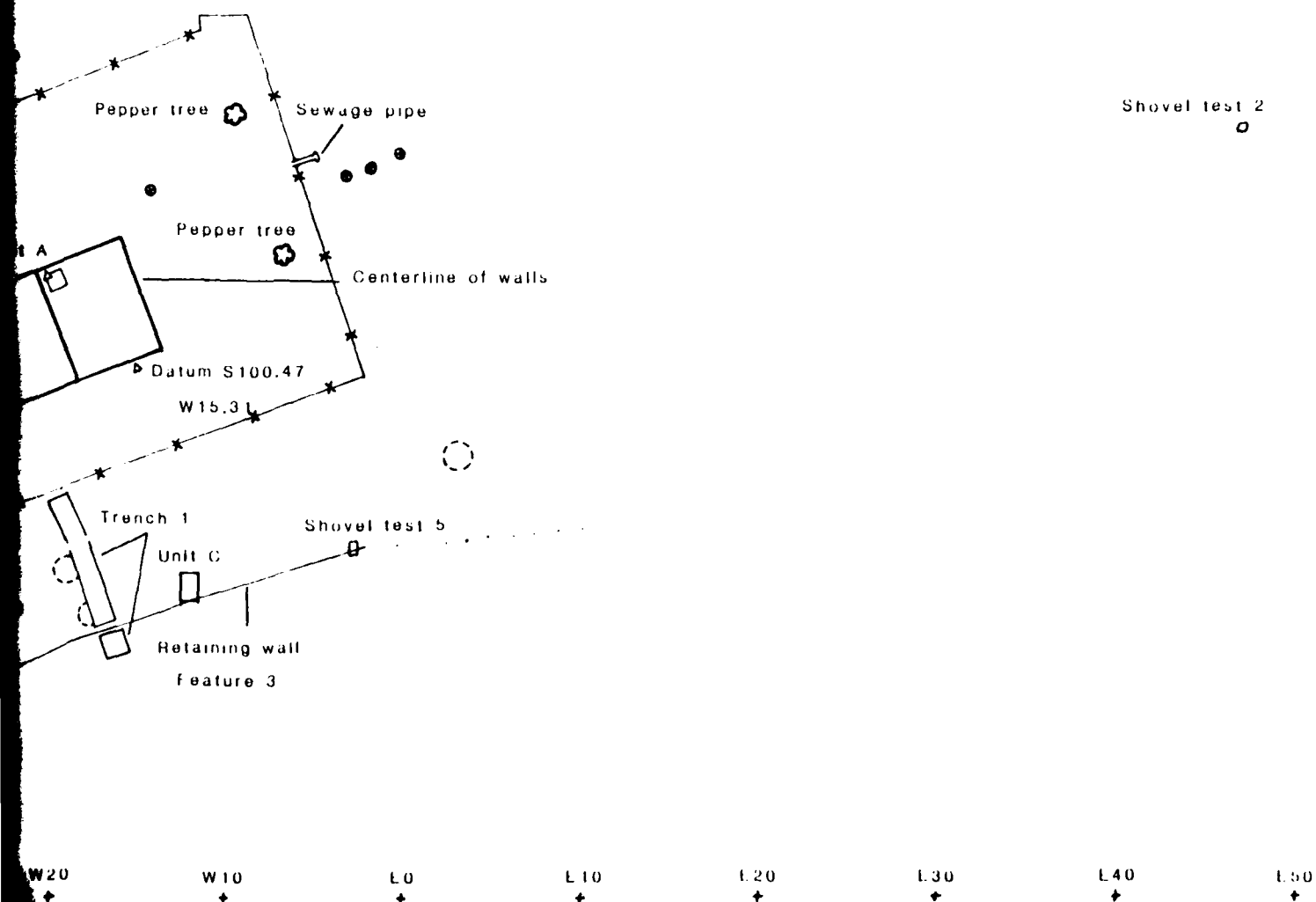


Table 1. Unit Statistics

Unit	Location	Surface	Volume	Depth
A	E room of adobe	1 x 1 m ²	1.5 m ³	1.7 m
B	S exterior wall	1 x 2 m ²	2.8 m ³	1.8 m
C	S slope	1 x 1.75 m ²	1.7 m ³	1.3 m
D	W exterior wall	1 x 1 m ²	1.6 m ³	1.6 m
Total		5.75 m ²	7.6 m ³	

The purposes, and thus the placements, of the excavation units were related to the adobe and its immediate environs. Their distribution was conditioned by the desire to maximize the data recovered during a very limited test program, the need to examine the adobe while not exposing an undue amount of intact fabric to the effects of erosion, and the limitations imposed by the undefined Native American site, as yet unbounded. Three of the units were consequently placed either inside or immediately adjacent to the adobe walls, and the fourth was at the bluff, south of the structure, where there was suggestion of a disturbed or altered slope.

Unit A. This location (Figure 2) was selected for the interior unit because it appeared to be less disturbed by pothunting than the other two rooms, and would provide an exposure of both exterior and interior walls. The specific objectives related to foundations, wall construction, and stratigraphy were achieved, and details are presented in Chapter 4.

Unit B. The placement adjacent to the exterior side of the south wall was related to an entrance indicated on the HABS drawings and visible on old photographs. Research objectives were focused upon the actual location and construction of the doorway, potential for artifact deposition outside the door or under the porch, evidence for the porch visible in photographs, nature of external foundations, construction of the exterior wall, and general stratigraphy. To insure locating the door and providing maximum exposure, a 1 x 2 m unit in east-west

direction parallel to the wall was excavated. When the artifact yield diminished at 1.6 m, further effort in the east half of the unit was discontinued; the west half was pursued in 20 cm increments until the basal hardpan was encountered at 1.8 m. Controlled excavation was terminated at that level, but the subsoil was tested by auger to 2.3 m.

Unit C. The gently sloping flat between the south wall of the adobe (which contained two doorways) and the edge of the bluff constituted an area of 390 m² perceived to represent high use and data potential. Feature 3, a linear rock alignment, had already been observed, there were at least two visible soil depressions and a light scatter of cultural materials on the surface on the steeper slope south of the bluff. At present about 13 m wide, the restricted area had potentially received intensive use. The objectives of Unit C were to assess Feature 3, evaluate the artifact potential of the area, and provide a profile of soil stratigraphy and artifact deposition.

With reference to the total site grid, the coordinates of Unit C are S 112.5/W 12.4. To provide greater exposure and information about Feature 3, the unit was 1 x 1.5 m in surface dimension, oriented north-south, and excavated in 10 cm contour levels to assess deposition on the slope. The northern half of Unit C (1 x 0.75 m) was discontinued at 1.0 m when cultural materials decreased to an insignificant yield. The southern half was continued to 1.3 m, at which depth the only artifacts recovered were from rodent burrows. The unit was then tested by augering from 1.3 to 2.4 m, but the distinctive hardpan recognized as the sterile base in all other units was never encountered at this location.

Unit D. The fourth unit was situated over the wall at the northwest corner of the adobe. Although the corner of the structure could not be established with certainty from surface indications, even with the aid of the HABS plan, it was hoped that the unit would provide evidence of brick coursing, foundation construction, and the joint between the westerly wing wall and the main building. A cold joint would

tend to suggest an addition, whereas a bonded joint would almost certainly indicate contemporaneous construction.

A 1 x 1 m unit was opened with the intention of locating the corner and then expanding the unit, if necessary, to meet the objectives. The complexity of the remains exposed slowed the progress of excavation. By the time it was evident that the exposure straddled the outer 0.3 m of the main wall and was south of the corner, there was insufficient time remaining to expand the excavation as planned. The unit was terminated at 1.6 m when the sterile hardpan was reached.

Summary of Unit Excavations: The four controlled excavation units exceeded the volumetric goals, and realized a limited but intensive examination of the adobe and immediate environs. The data and interpretations which will be presented in the following chapters add to the existing knowledge about foundation construction (interior and exterior), brick coursing, wall facings (interior and exterior), door placement and construction, relation of findings to HABS drawings, evidence for floor levels, remodeling and alteration, artifacts, deposition and stratigraphy.

Shovel Tests

Five shovel tests were made for the rapid exposure of areas of potential interest. The size and configuration of each was related to the specific test objective, and the methods included pick, shovel, and trowel. Time expended in the excavation and recording of all such tests amounted to five person-days.

Table 2. Shovel Test Statistics

<u>Test</u>	<u>Location</u>	<u>Surface</u>	<u>Volume</u>	<u>Depth</u>
1	N of adobe	1.88 m ²	0.75 m ³	1.0 m
2	Slope SE of adobe	0.24 m ²	0.02 m ³	0.4 m
3	Slope SW of adobe	0.12 m ²	0.02 m ³	0.25 m
4	Slope SW of adobe	2.90 m ²	0.05 m ³	0.2 m
5	Slope SE of adobe	0.18 m ²	0.02 m ³	0.2 m
Total		5.32 m ²	0.86 m ³	

Shovel Test 1. The purpose of the first shovel test was to assess the wing wall extending from the northwest corner of the adobe. Specific objectives were to locate and define the wall, determine if it was contemporary or an addition to the main structure, and establish if other features or remains were present. The approximate position was estimated from the HABS plan, and the original excavation area was 1.0 x 0.75 m, longer axis north-south. At a depth of 0.4 m, three cobbles were found, in seemingly jumbled disarray above plaster debris. The test was then temporarily abandoned until the elevation of the stone foundations was established in Units A and D. It was then apparent that the cobbles were 0.4 m above the postulated top of the foundation, and that the area being tested was too far east to intersect the line of the wall encountered in Unit D.

A trench 0.7 m wide was then extended westerly from the south wall of the original test for a distance of 1.2 m, and the earth was screened to recover any artifacts associated with the wall. The foundations were encountered at 0.8 m and pedestaled for 0.2 m to examine the coursing. Although efforts were made to outline adobe bricks in either plan or elevation, rodent activity was particularly destructive in this area, and no patterns could be discerned. The foundations were recorded and the test terminated at 1.0 m in depth.

Shovel Test 2. A second test was undertaken to assess the potential of the slope south and east of the adobe as a location where trash might have been discarded, either broadside or within a prepared facility. Local informants had related collecting old bottles in this vicinity, and ceramic fragments were observed in rodent spoil. A test hole 0.4 m northeast-southwest x 0.6 m northwest-southeast was placed over a rodent burrow, with all earth spread and artifacts collected. Cultural materials were recovered to a depth of 0.2 m, and the test was discontinued at 0.4 m. The artifacts appear to represent a disturbed zone of cultural materials similar to those encountered in the upper levels of Trench 1.

Shovel Test 3. Located on the slope southwest of the adobe, this test was conducted to evaluate the northwest trending segment of Feature 3 and to determine if the rock alignment extended to the adobe beneath the surface. The placement was chosen to intersect any extension north of the visible terminus of the rock feature. The area examined was 0.6 x 0.2 m. Hardpan was encountered at 0.02 m, but the test was continued to 0.25 m to check whether the stratum was possibly a shallow lens or secondary compaction. The hardpan appeared to be an undisturbed layer, and there was no evidence that the rock alignment of Feature 3 extended into this area.

Shovel Test 4. Further pursuing the extent and orientation of the rock alignment designated as Feature 3, a longer test was employed to determine where the alignment terminated. An area 2.9 x 1.0 m was tested using a pick mattock in order to avoid disturbing or dislodging any rocks that might be present. An additional segment of the feature was found, 0.75 m long and 0.05 m below the surface. No further extension of Feature 3 was found while continuing the test to 0.2 m, and it is assumed, at this time, that the alignment ends as shown on Figure 2.

Shovel Test 5. The fifth test was located at the eastern terminus of Feature 3 to determine if the rock alignment extended beyond indications visible from the surface. An area 0.6 m north-south x 0.3 m east-west was examined to a depth of 0.2 m, but no cobbles or rocks were detected.

Summary of Shovel Tests: The five tests proved useful in providing a quick return of accurate data that could not otherwise be obtained within the contract limitations. They supplied preliminary information on the northwest wing wall and identified problems for future research, helped to delineate the nature and extent of Feature 3, contributed to the artifact assemblage, and revealed useful soil profiles.

Auger Tests

A program of auger borings was implemented to: 1) locate and identify artifact deposits; 2) provide soil data, particularly in regard to the pervasive hardpan; 3) test areas where prior research revealed high concentrations of phosphate; 4) assess nature of visible depressions; and 5) locate outlying structural remains, features, or deposits. In all, 77 auger borings were made using a two-person, gas-powered post hole digger equipped with a 0.2 m bit. Each bore was drilled to the hardpan or that point where obstructions prevented further penetration. All spoil was spread for inspection, and any cultural remains were collected. Sidewalls were inspected, observations recorded on individual boring log record forms, and each location mapped. The locations of the tests were selected according to three different strategies: systematic placement according to the established grid, judgemental placement based on surface observations, and placement by reference to the mapped high phosphate concentrations.

Tests on Established Grid. Fifty borings were made at 5 m intervals on the UCR topographic base map, between the west wall of the adobe and the east side of an unnamed ravine. Numerous depressions in the surface and a dispersed scatter of cultural materials suggested the potential for trash pits, activity areas, or features. Cultural materials were either recovered from the spoil or observed in the profiles of 20 of these tests. In all cases, the artifacts were above 0.3 m in depth, and there was no concentration to suggest a primary deposit. In contrast, Feature 1 extended to 1.4 m, and the contents of Feature 2, not fully tested, extended to at least 0.8+ m. If it is assumed that an auger boring would detect a trash deposit within 1.5 m, the 50 tests would constitute a 5% sample (75 m^2) of this total area encompassing approximately 1500 m^2 . Other than Features 2 and 3, no additional deposits or remains were located.

Tests on Surface Observations. Fourteen auger tests were made on a judgemental basis. Depressions in the surface west of the adobe suggested that cultural materials or features might be present, and those

mapped as numbers 6, 7, 9, and 10 (Figure 2) were tested. While fragmentary cultural materials were recovered from all four, the artifacts were all above 0.3 m, lacking context and associations; the depressions are interpreted as exploratory holes dug by relic collectors.

Eight more cores were placed on the flat to supplement the grid program in areas where surface artifacts or vegetation changes suggested a resource potential; all were negative. Three tests were placed on the flat immediately east of the adobe, and revealed that the hardpan was relatively shallow (less than 0.1 m) in this location. The other boring made on subjective criteria was in Feature 2, prior to excavation. A test in the visible depression of surface determined that a high concentration of artifacts was present to a minimum depth of 0.8 m, suggesting the presence of a trash pit which was subsequently examined by other methods.

Tests of High Phosphate Areas. Two areas of phosphate concentrations were sampled by auger testing: immediately southeast of grid point S 60/W 60, and on a line between reference points S 80/W 50 and S 70/W 20. None of the 11 tests provided any evidence of cultural materials, features, or deposits.

Summary of Auger Tests: The program identified one artifact deposit (Feature 2), eliminated four depressions from further consideration as potential trash deposits, tested areas of high phosphate analysis, and provided essential data for the recording of highly complex soil deposition and formation (Figure 3).

Mechanical Trenches

Three trenches were dug by mechanical equipment in areas considered unlikely to contain intact prehistoric remains, and where broad exposures were needed to assess the potential for significant historical deposits. The equipment was a Model 350D backhoe with a 1 m bucket. Each trench was excavated down to the hardpan, and all spoil was spread for examination. Appropriate profiles were drawn.

Trench 1. A north-south trench was cut on the south side of the adobe, from the cyclone fence surrounding the structure to a distance of 7.7 m. The bucket was lifted over the rock alignment of Feature 3, and the cut continued for approximately 1.5 m south and downslope from the feature. Maximum depth was 1.0 m.

Trenches 2 and 3. Both cuts were on the eastern slope of a small ravine west of the adobe, extending from the top to the base of the gully. Trench 2 was 2.6 m long and 1.5 m deep, Trench 3 was 4.1 m long and 1.5 m deep, and both terminated at the basal hardpan. It was necessary to utilize heavy equipment at this location to remove a deposition of modern concrete rubble which would have obscured any earlier, potentially significant deposits below the recent fill.

Summary of Mechanical Trenches: The trenches provided valuable exposures without expending valuable person-days for hand excavation for exploratory purposes. Trench 1 revealed important information on soil deposition, early artifact deposits, and the function of Feature 3. Trenches 2 and 3 indicated only a very sparse presence of early materials within the area tested, reducing thereby the priority for further studies in this location.

Mapping and Surveying

The baseline map used in this investigation was the topographic map produced by the University of California, Riverside, as part of the Phase 1 study by Theodoratus Cultural Research (TCR 1983). Although the map legend says that the cartographer used a declination of 16° , the UCR grid is actually oriented at 14.5° , whereas the USGS Prado Dam 7.5' quadrangle map indicates a declination of 15° . This has not affected the mapping of work described in this report, although future investigators should be aware of the possible discrepancy.

One of the mapping objectives was to assess the accuracy of the HABS plan for guidance in the design of future field work. To test for reliability, the distance from the east side of the west wall of the east room (Room 1) to the exterior side of the extreme west wall of the structure was recorded as 50' 2" on the HABS drawing at the north end

of the rooms. The actual distance, as revealed by excavation, from the same point in the east room where the wall was exposed in Unit A to the outer west wall uncovered in Unit D was found to be 49' 8", or a difference of six inches.

Another difference between the HABS plan and results of the field work occurred in Shovel Test 1. The HABS drawing indicated that the west wing wall was 2' 5" (0.74 m) thick at this point, whereas the wall was found to be 1.05 m where exposed in the area tested.

The locations and relationships of all work discussed in this report have been plotted on Figure 2 with use of transit, stadia rod, and metric tapes.

Evidence of Vandalism

Eleven depressions believed to result from unauthorized digging by relic collectors were observed in the vicinity of the adobe - two within the walls, at least seven on the flat area west of the adobe, and two on the south slope (Figure 2).

Table 3. Description of Soil Depressions

<u>No.</u>	<u>N-S*</u>	<u>E-W*</u>	<u>Area**</u>	<u>Depth*</u>	<u>Auger tested</u>
1	2.20	2.10	4.62	.80	No
2	2.50	2.20	5.50	.70	No
3	1.90	2.05	3.89	.60	No
4	0.30	0.50	0.15	.30	No
5	0.50	0.60	0.30	.32	No
6	1.00	1.00	1.00	.17	Yes
7	1.04	1.03	1.07	.08	Yes
8	0.84	2.40	2.02	.14	No
9	0.66	0.72	0.47	.15	Yes
10	0.09	0.09	0.01	.10	Yes
11	1.20	0.92	1.10	.12	No

* measurements in m
 ** measurements in m²

Although the dimensions on Table 3 reflect only surface indications visible at the present time, at least 21.5 m² shows disturbance, to which must be added the 11.24 m² represented by Features 1 and 2. Evidence from Feature 1 demonstrates that the disturbance in that deposit was 1.4 m deep, and that fragments which could be rejoined to artifacts in that feature had been strewn down the south slope.

From photographs and newspaper clippings, some of this collecting activity can be dated between 1939 and 1968 (TCR 1983). A group of 51 artifacts formerly housed at the Prado Nature Center is currently curated by the Louis Rubidoux Nature Center, and other objects are in the care of the Riverside Municipal Museum and the University of California, Riverside. While there has certainly been some loss of data due to the removal, disturbance, and mixing of cultural materials, most of the surface is still seemingly intact, and broken items, bone, and structural materials which have not been collected provide valuable information to the archaeologist. Even without provenience, these collections stored elsewhere may contribute important insights into chronology, trade, status, and other research domains.

Laboratory Methods

After excavation, all residue remaining in the screens was spread on a table to be sorted by a specialist as a controlled laboratory procedure. The initial separation into categories such as glass, bone, brea, etc., was made at this time, and artifacts or materials needing closer scrutiny were washed. The discard policy was established by the program manager and the principal investigator; materials which were redundant, and without further data potential beyond quantity and presence, were weighed, tabulated by provenience, catalogued as discards, and reburied in the units. For example, substantial samples of brea roofing and exterior wall plaster, in excess of 10 kg, were retained for further study, but the great bulk of the excess material was reburied. Regarding glass bottle fragments, all necks, bases, embossed sidewalls, or other diagnostic parts were retained, but miscellaneous small wall shards were sorted by color, tabulated, catalogued as discards, and

reburied. All ceramics were retained. Certain like items from the same level of the same excavation unit, e.g., nails or fragments of the same ceramic vessel, were batched under a single catalogue number, but the entry lists the number of items or fragments contained. All metal objects which were potentially identifiable or measurable were saved; amorphous or corroded fragments beyond identification were weighed, catalogued, and discarded. All faunal remains were retained.

As part of the cataloguing and analysis, Munsell colors and Mohs hardness were recorded where such data would be useful, particularly for the ceramics.

Soil Observations

Information was gathered from the various field methods used during the investigation in order to initiate a data base from which interpretations regarding stratigraphy and deposition can eventually be drawn. Since mechanical trenching was limited at this time, the observations were recorded from discontinuous exposures. The most useful of these were the wall profiles drawn of the excavation units and Trench 1 which contributed to the schematic north-south cross section through the adobe and the slope to the south (Figure 3).

The excavator drew two profiles for each unit, chosen on the basis of which walls were the most representative and informative. Those selected were scraped smooth and observed both dry and wet; in all cases, more detail was revealed and the profiles drawn, after spraying with a fine mist.

The discussion of soil characteristics which follows is based upon the limited observations and is presented for reference in future work. The proposed classifications and interpretations must be regarded as tentative. The observed strata are described in order from the lowest to the present surface.

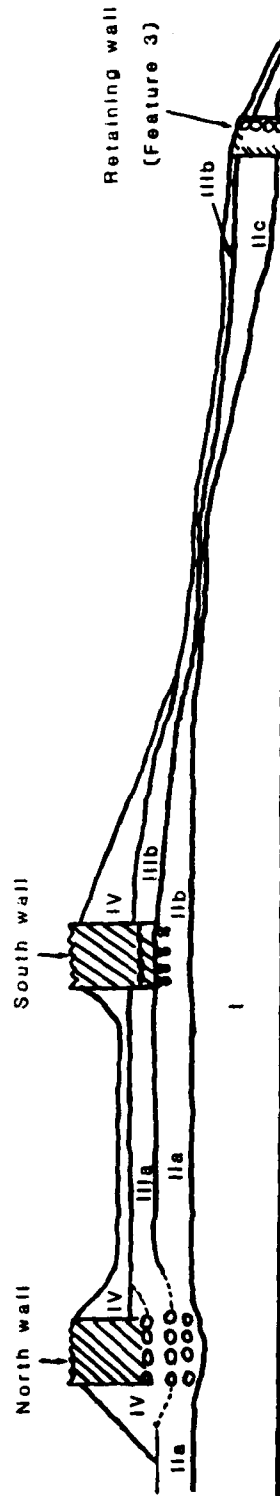
Figure 3

SCHEMATIC CROSS SECTION OF SITE
(North-South Axis)



Roman numerals refer to identified soil types

----- Compacted soil



Soil Type I - The basal hardpan is an extremely compact sandy clay of reddish brown color (5YR4/4). It is encountered at various depths in the areas tested, from 0.03 to 2.0 m below the present grade. It is free of cultural materials except where deliberate intrusions have occurred, e.g., the foundation trenches or Feature 1.

Soil Type IIa - Just above the hardpan is a silty clay, dark brown in color (10YR3/3), generally soft when moist. The average thickness is 0.6 m. This stratum is restricted to the interior of the adobe but stratigraphically conforms to Types IIb and c.

Soil Type IIb - This is a dark brown (10YR3/3) silty loam, very soft when moist. The stratum is from 0.6 to 0.05 m thick, from north to south, and occurs from 0.6 to 0.2 m below the surface (north to south). It contains fewer cultural materials than the levels above it.

Soil Type IIc - Compared to IIb, the difference is in color, yellowish brown (10YR5/4) and a higher clay component. It has been observed only in the slope south of the adobe. The thickness of the layer varies from 0.1 to 0.5 m, increasing down the slope. It is encountered from 0.1 to 0.2 m below the present surface, from north to south. This stratum contains the earliest cultural remains recovered, including the ceramics dated to the middle of the nineteenth century.

Soil Type IIIa - Similar in texture to IIb, this type is a silty clay of mottled brown color (7.5YR5/4), soft when moist. It is approximately 0.4 m thick, beginning about 0.2 m below surface. It is restricted to the interior of the adobe, and is probably a combination of adobe melt and aeolian soil. Culturally, artifacts contained are chronologically mixed.

Soil Type IIIb - The type is a brown (7.5YR5/4) silty loam, very soft when wet, from 0.4 to 0.1 m thick from north to south. The depth is variable, ranging from 0.8 to 0.1 m, also from north to south. It occurs immediately south of the adobe, and may represent adobe

melt mixed with alluvium. This level contains much cultural material, particularly mortar and plaster.

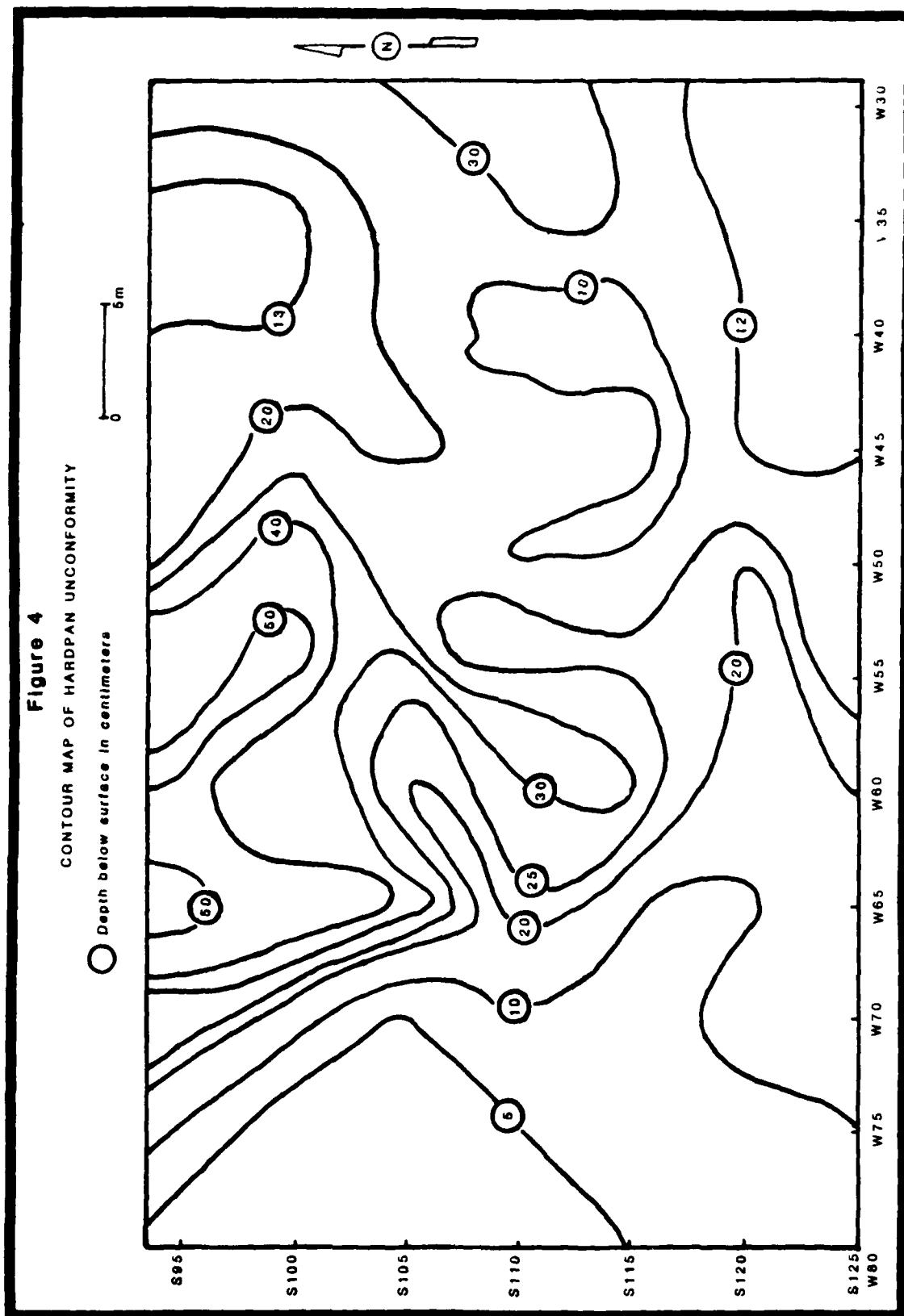
Soil Type IV - The uppermost stratum consists of a yellowish brown (10YR6/4) silty clay derived from the deterioration of adobe bricks. The thickness depends on the distance from the walls; in the center of the adobe, the deposit measures 0.2 m. The cultural contents are disturbed and chronologically mixed.

Soil Type V - A fine silty clay with lenses of sandy clay, yellowish brown to brown, was found only on the slope southeast of the adobe. It is at least 0.7 m deep where tested, and soft when damp. Artifact content is generally low, with most of the material observed attributed to rodent activity.

The nature and deposition of the various soils is complex, and the interpretations offered at this stage of testing are tentative. It appears that Type I, the underlying hardpan, is culturally sterile. This observation is supported by James Brock in his excavation of the Native American component (personal communication 1983). The stratum constituted the base over most of the site, but was not detected in the limited exploration of the southeast slope. The contours of the top of this deposit as it occurs on the flat east of the adobe were mapped from the results of the auger borings (Figure 4).

Soil Type IIb appears to represent a downslope deposit containing cultural materials, perhaps the original ground surface during the initial occupation period. This proposition is based in part on the correspondence of the level with fragments of a door sill on top of the foundation stones in Unit B and the upper course of the foundations. Soil IIc is differentiated by a difference in color and an apparently intact deposit of early artifacts.

Type IIIa was most evident as a thin stratum of platy soils in Unit B. Since it has built up within the doorway, it has probably accumulated after abandonment, and the structure may be due to seasonal exposure or even compaction from cattle trampling.



Soil Type IV represents adobe melt as the walls deteriorated, diminishing in depth as distance from the walls increases. The deposition and configuration of Type V is not understood at this time. It may represent fill to level or stabilize a useful area on the south side of the adobe, perhaps placed after the construction of the retaining wall. Additional studies will be needed to define and explain the horizons encountered in the test program, but these preliminary observations have contributed to the history of deposition and predictions of where cultural materials may be expected.

Table 4. Soil Characteristics

Type	Location	Composition	Color	Munsell
I	Basal hardpan	Sandy clay	Reddish brown	5YR4/4
II _a	Inside adobe	Clay silt	Dark brown	10YR3/3
II _b	Exterior, south	Silty loam	Dark brown	10YR3/3
II _c	South slope	Silt/clay loam	Yellowish brown	10YR5/4
III _a	Inside adobe	Silty clay	Mottled brown	7.5YR5/4
III _b	Exterior, south	Silty loam	Brown	7.5YR5/4
IV	Around adobe	Silty clay	Yellowish brown	10YR6/4
V	Southeast slope	Silty clay; sand	Yellowish brown to brown	5YR5/2 to 10YR4/3

3. FEATURES

During the investigation, three features which were examined outside of the adobe itself were designated as features. Two were trash deposits, and the third was a rock alignment at the edge of the bluff south of the structure. Other depressions which may represent refuse deposits or holes dug by treasure-seekers were mapped (Figure 2) but not assigned feature numbers at this time.

Feature 1

As first observed, Feature 1 was a depression in the surface 15 m west of the adobe, 1.7 m north-south, 2.2 m east-west, and 0.4 m deep. The location was correlated with a photograph in the Riverside Municipal Museum which shows a pit, spoil dirt, and artifacts (bottles) being removed, with the walls of the adobe in the background. On the assumption that the collectors may not have taken broken items or artifacts other than bottles, the depression was excavated with screening of contents.

Since the feature was originally excavated into and through the hardpan stratum, it was easily defined by following the softer fill. The original outline, obscured to an unknown extent by the relic collectors, was found to be 1.3 x 0.7 m, 1.4 m deep. The configuration was roughly rectangular, and the original function may have been as a privy, but the disturbance effectively destroyed any evidence such as sidewalls, lining, soil cones, etc. The intrusion was marked by the presence of a modern milk bottles and plastic bags, but otherwise the contents represent the years 1870-1900.

Feature 2

The second depression tested was 22 m southwest of Feature 1, 2.5 m north-south, 3.0 m east-west, and 0.6 m deep. It was first augered to test for depth and the presence of cultural materials. The boring indicated the presence of artifacts, but those recovered were not sufficiently diagnostic to date the deposit. The western third of the feature was then excavated to a depth of 0.5 m to provide a representative assemblage. The collection was interpreted as a looted trash pit containing artifacts from the late nineteenth century and early years of the twentieth century.

Feature 3

During the examination of the surface at the initiation of this study, numerous rocks were observed on the south side of the adobe at the edge of the current bluff line, which had not been previously recorded. It was not immediately apparent whether this was a continuous alignment, but it was believed to be non-random and worthy of investigation. The effort began with clearing vegetation by shovel, and as the nature of the feature emerged, continued with Unit C and Trench 1.

The alignment was revealed as approximately 31.5 m long, composed of irregular cobbles and angular rock, with a width varying from 0.2 to 1.0 m, depending on the number of stones visible. The feature begins 9.5 m south of the southwest corner of the adobe and angles toward the bluff, continuing parallel to the edge of the slope for 22.5 m, or approximately 7.0 m beyond the east wall of the adobe. Extensive clearing and probing failed to reveal other rocks or phenomena which might be related. Unit C and Trench 1 were then excavated to examine the depth and construction of the feature, soil profiles, or other clues to the dating and function of Feature 3.

In Unit C, the alignment was exposed as a single course of rock, 0.1 m deep, laid on redeposited, artifact-bearing soils. The segment revealed in Trench 1 was comprised of four courses, 0.4 m deep, resting directly on the reddish brown hardpan. The profile (Figure 3) indicates that the alignment is intrusive into the culture-bearing strata.

Evidence accumulated thus far suggests that Feature 3 is a retaining wall: 1) it parallels the edge of the slope; 2) the length essentially coincides with the south wall of the adobe; 3) the configuration is typical of a wall with fill on the north side to buttress or contain a relatively flat, useful area adjacent to the house. The variation in its depth is not yet understood; a retaining wall might be expected to demonstrate a consistent depth, but other variables such as soil conditions, angle of the original slope, use of the area, or others, may have affected the coursing.

Feature 3 can be dated relative to other events which took place at the site. In the 50-70 cm levels of Unit C, large sections of brea containing cane impressions were found below the rocks of the alignment. These chunks match the description of the original roofing of the adobe (TCR 1983:47), and their presence is interpreted as the discard of original building materials during the installation of the hip roof or other alterations. It is therefore probable that the wall was built after the roof was remodeled, now estimated at 1890 or thereafter.

4. DESCRIPTION OF THE STRUCTURE

Foundations

All of the foundations examined during this investigation were of the native stone, generally water worn and appearing to be granitic. A foot survey was made along Mill Creek, which passes on the south side of the adobe, to search for a potential source, and a deposit of similar cobbles was found at the base of the Chino Hills, approximately 0.8 km (0.5 mi) to the west. Geologic analysis would help to confirm the identity of these raw materials, but it is apparent that there was at least one local source.

The stones were laid in prepared trenches of two different types. In Units A and D (Figures 5, 6), the depth of the trenches ranged from 0.5 (D) to 0.8 m (A), in both cases excavated down to the hardpan stratum. The trench was distinctly shallower at Unit B (Figure 7), where the base was only 0.32 m deep and 0.4 m above the hardpan.

Other distinctions were observed in the number of courses and the sizes of the stones. The foundations had three courses of stone in Unit A (both interior and exterior walls), and Unit D (west exterior wall). In both, the lowest course was composed of cobbles 0.25 to 0.30 m long, and 0.15 to 0.25 m high. The middle course was 0.10 m above the first, with constituents 0.15 to 0.30 m long, and 0.12 to 0.15 m high. The gap or hiatus above this second course varied from 0.05 to 1.0 m. The top course contained the smallest stones, from 0.05 to 0.18 m long and 0.05 to 0.15 m high. The stones were more uniform and regular in Unit D, varying from 0.05 to 0.10 m in length, and 0.05 to 0.07 m in height. The uppermost course in Unit D is also more level, with very little variation in the elevation.

In Unit B, however, only two courses were observed. Cobbles in the lower course ranged from 0.15 to 0.30 m in length, and 0.10 to 0.20 m in height. There was no demonstrable gap between the courses, with the stones in contact. Stones in the upper course had the same range of size, and were relatively level.

Figure 5
PROFILE OF UNIT A
West Wall

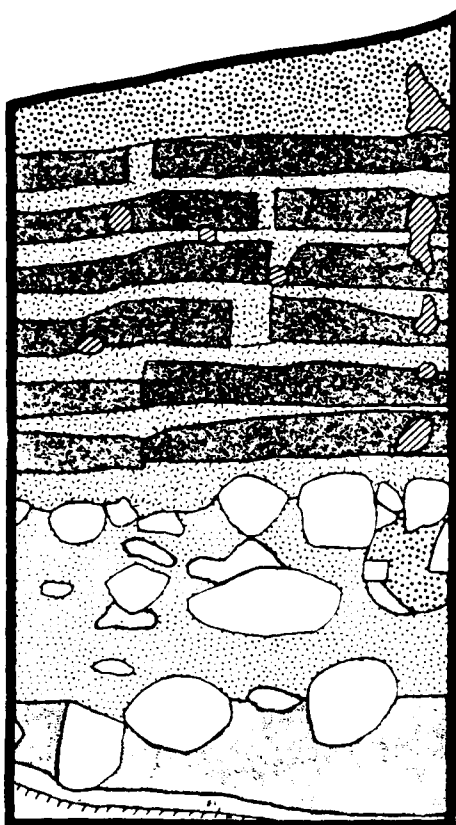
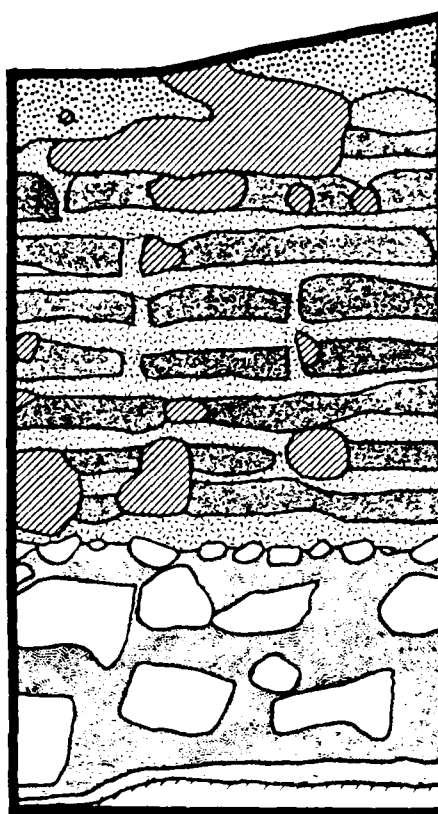


Figure 6
PROFILE OF UNIT D
East Wall



Mortar



Soil type I



Soil type IIa



Soil type IIIa



Soil type IV



Cobble



Adobe brick



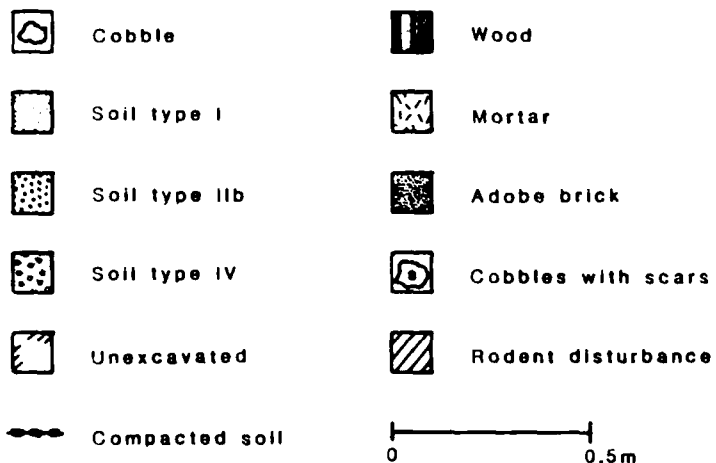
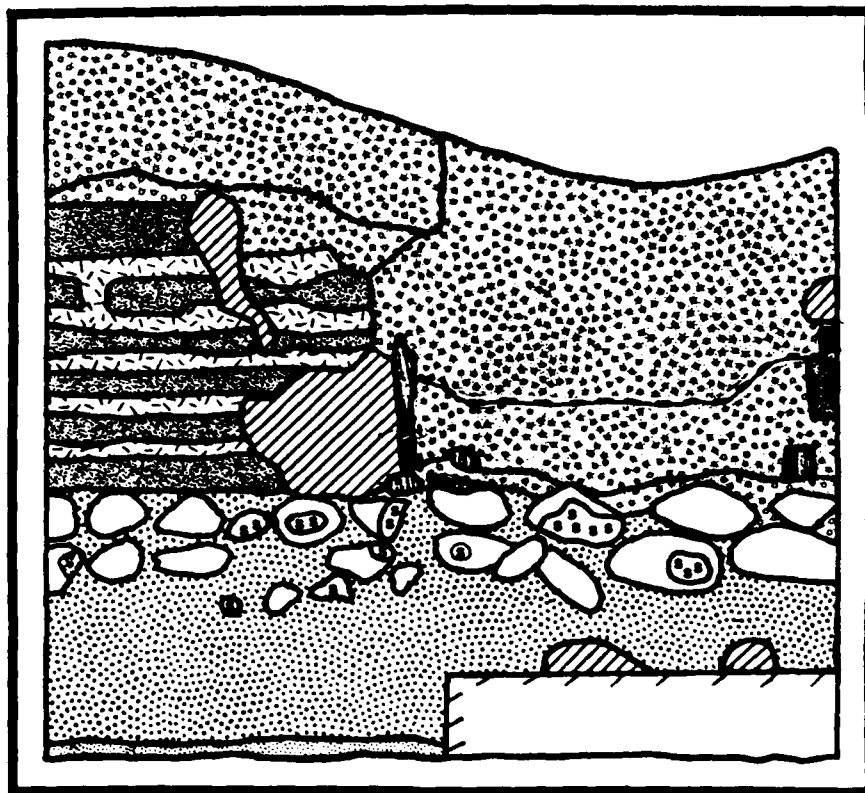
Unexcavated



Rodent disturbance

0 0.1 m

Figure 7
PROFILE OF UNIT B
North Wall



The width of the foundations could be evaluated only in Shovel Test 1, where it was 1.05 m (3.4 ft) wide exclusive of wall plaster (Figure 8). Although not fully exposed vertically, the upper course was composed of small cobbles similar to those observed in Unit D. A second course was approximately 0.05 m below the top cobbles, but it remains unknown at this time if there was a third course below. Above the top course of stone in all the foundations examined is a fine-textured mortar which acts as a base and level platform on which to lay the adobe bricks. There was no evidence of any mud mortar used between the stones of the foundations.

On the basis of the limited testing, it appears that the trenches and foundations for the exterior north wall of the east room, west interior wall of the east room, west exterior wall, and west wing wall extension are essentially similar, suggesting contemporaneous construction and comparable function. The use of three courses and graduated rock sizes with the smallest in the uppermost course indicates that the builders followed a specific plan and pattern. In contrast, the single excavation on the long south exterior wall (B) encountered only a two-course foundation. Although needing further testing, one possible explanation is related to engineering stresses in a flat-roof building. Both a soils engineer and an historical architect have confirmed that the shorter, north-south walls were probably the load-bearing walls, while the longer south wall - and possibly the north wall - would only have to support their own weight and would consequently require a less bulky foundation (F. D. Didier, R. Girvigian, personal communications 1983).

Drip Line

The excavation of Unit D and the extension of Shovel Test 1 revealed an alignment of cobbles along the exterior side of the western wall of the adobe and the western wing wall. The cobbles were parallel to the wall, abutting the exterior plaster, and higher than the foundation. The alignment consisted of two rows of river cobbles from 0.05 to 0.20 m long, 0.05 to 0.10 m wide, and 0.15 m thick, for a total average width

Figure 8

PLAN OF WEST WING WALL FOUNDATION

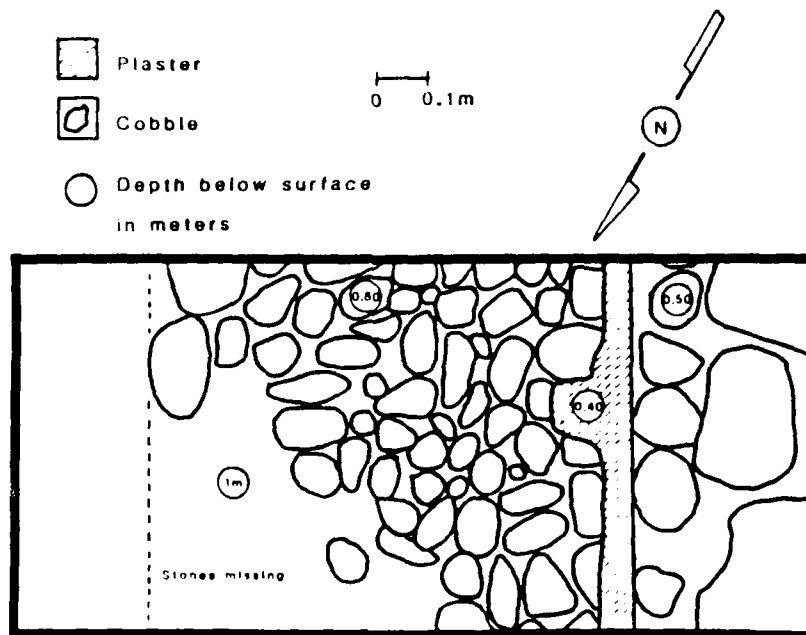
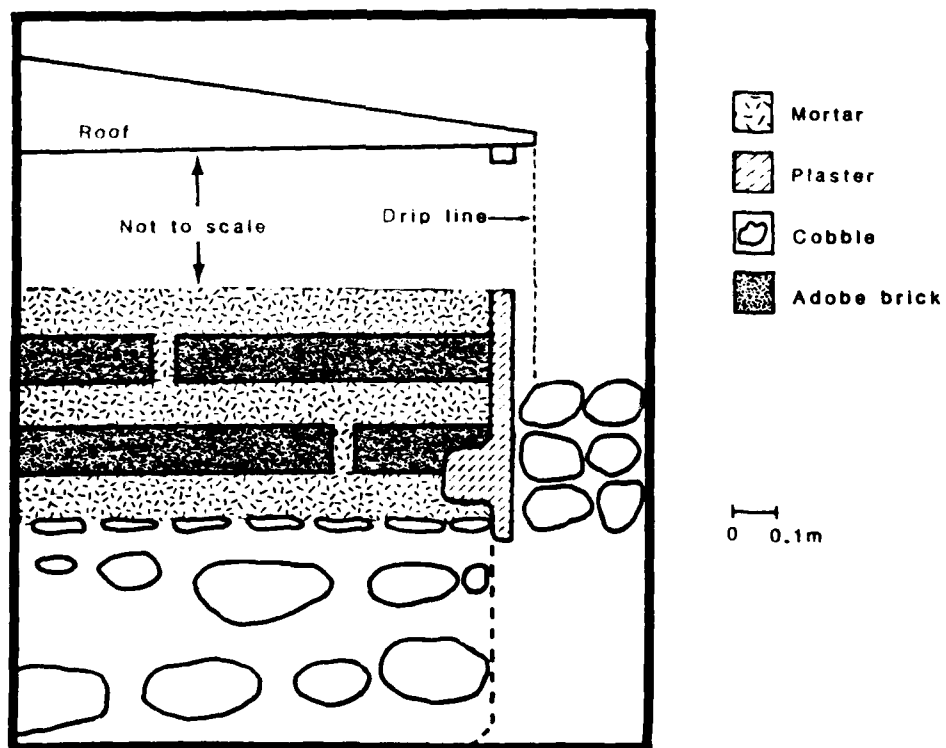


Figure 9

SCHEMATIC OF DRIP LINE AND FOUNDATION



of 0.25 m. The base of the lower course was approximately equal to the top of the foundation, presumably at the original grade, while the top of the upper course was 0.25 m above the top of the foundation (Figure 9).

The only other exterior of a perimeter wall visualized during this test was the south wall (Unit B), and no comparable alignment was found there. However, historical accounts and photographs attest to the presence of porches on the north, east, and south sides, so that the base of the western wall would be the only one exposed to water from either run-off or splash. It is suggested that this outer alignment was added, subsequent to the plastering, as a curb to protect the base of the adobe wall from erosion due to water. The width is adequate to receive run-off from the eaves. A curb which is comparable in location (on an exposed outer wall) and presumed function was constructed out of concrete at the Pico Adobe in Los Angeles County (Giffen 1955:72).

Adobe Walls

The bricks used at the Bandini-Cota adobe were made of a fine texture sandy clay incorporating weeds or straw as a binder. The clay of both bricks and mortar was smooth, devoid of cultural materials, with no visible pebbles, shell, ceramic fragments, or other inclusions sometimes seen at early adobes. Although no complete bricks were exposed during this test, the average size has been approximated from profiles (Figures 5 and 6) to be 0.70 x 0.35 x 0.08 m (27.6 x 13.8 x 3.1 in). The thickness of mortar between rows and courses averages 0.05 m, or nearly 2 in.

Although only conjecture at this time, the size of the bricks observed, thickness of the mortar, wall profiles, and measured width of the foundations suggest that the bricks were laid in some variant of English common bond (Figure 10). In plan view, the drawing suggests alternating patterns of two headers and one stretcher, reversing in each course. This bonding pattern would result in a wall 1.10 m thick, a difference of only 0.05 m, or less than 2 in, from the 1.05 m wall

thickness recorded by HABS. Aside from the expected irregularities in hand made bricks, one variable may be the thickness of mortar or plaster on the interior wall surface; for the purposes of Figure 9, it was assumed to be the same as on the exterior, 0.05 m.

The supposition advanced above applies only to the walls of the first story. The thickness of the second story walls was recorded by HABS as only 0.30 m (11.8 in). The exterior rose flush and vertical, but the interior wall was reduced from 1.04 m (41 in) to 0.94 m (24 in) to create a ledge or niche to receive the joists supporting the second floor. No evidence remains to suggest the construction of the upper wall, but either a different laying pattern or a smaller brick would have been necessary. Either possibility can be supported in the literature; at Mission La Purísima Concepción, the thickness of the second story wall was reduced by laying a single stretcher and header in alternating courses (Whitehead 1980:85), while smaller bricks were used in the remodeled upper walls of the Gabe Allen adobe in Orange County (Roberts 1936:87).

Although it has been stated that, "It was only possible to erect such a huge dwelling by using wood to reinforce the adobe walls" (TCR 1983:47), no evidence for such reinforcement was observed during the excavations or by inspection of the standing wall remnants. Such use of wood has not been documented in other adobe investigations, and would be highly unusual for the period. At the time of construction, wood was still restricted to roof supports and the framing of doors and windows, and timbers or lumber did not become generally available until the development of American lumbering in the 1840s, particularly after the Gold Rush (Kirker 1973:13-14).

Another unresolved question is the size of the adobe bricks. A note on the HABS drawings states that, "All walls are of adobe brick 3 or 4" x 8 x 12" with 1" joints." The metric equivalent of these dimensions is 0.08-0.10 x 0.20 x 0.30 m, considerably smaller than those exposed by this investigation. No explanation for the difference is offered; it is not known whether the HABS recorders measured bricks on the first or second story, or on interior or exterior walls.

Figure 10

PLAN OF ADobe BRICK STACKING PATTERN

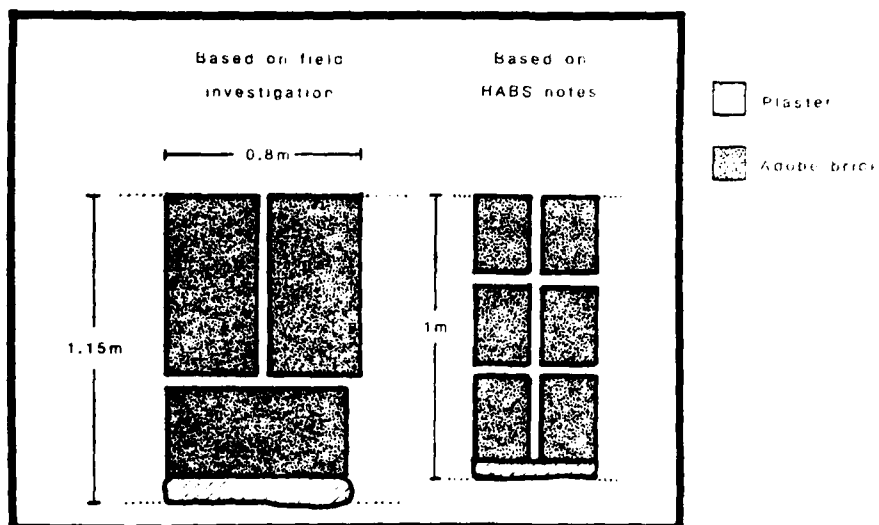
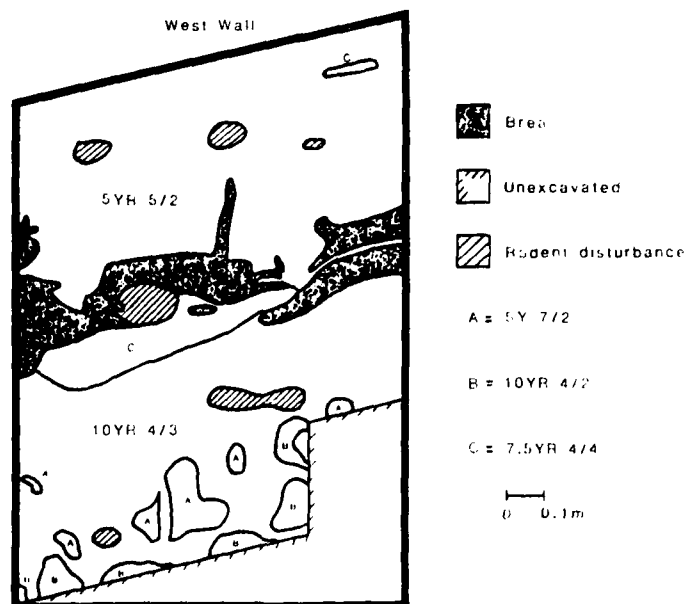


Figure 11

PROFILE OF UNIT C

West Wall



Plaster

The use of wall plaster is clearly shown on the photographs, and further confirmed by the exposure of intact surfaces, as well as an abundance of fallen fragments. The plaster was probably composed of sand and lime. What can be observed is a mixture of very white mortar with extremely fine sand. The sand is uniform in particle size, containing both broken fragments and clastic quartz and feldspar; it may well have come from the creek at the base of the southeast bluff. The resulting mix is rather soft.

To assist the bonding, the walls were prepared in either of two ways: routing out the joints and as visualized in Unit D, scoring the adobe with grooves or notches up to 0.20 m wide and 0.10 m deep. The plaster was then smoothed over the walls to an average thickness of 0.05 m (Figure 8), but was in some places from 8.0 to 11 cm (3.1 - 4.3 in) thick.

This massive coating once completely covered the exterior, and there appears to have been an outer layer of creamy white paint. The mercantile source and dates for such a large undertaking may be obtained in records or documents, since the Cotas made many purchases on credit. The raw materials may be of local origin, since some of the purest calcite deposits in southern California exist in the Jurupa Mountains; these are still being exploited at Crestmore, Riverside, and Colton.

The field observations are at variance with the HABS drawings which report that both exterior and interior walls were coated with $\frac{1}{4}$ " (0.006 m) of plaster. The plaster visualized was nearly 10 times as thick. It is possible that the HABS notes actually refer to the layer of whitewash rather than plaster, although the notes elsewhere differentiate between the whitewash used on exterior woodwork and paint applied to the interior trim.

Table 5
Occurrence of Plaster and Brea

Location		Plaster	Weight in grams	Brea
Unit A	10-20	10.0		
	20-30	14.0		
	30-40	43.0		
	40-50	56.7		
	50-60	113.4		
	60-70	56.7		Trace
	70-80	28.4		Trace
	Sub Total	322.2		Trace
Unit B	10-20	Trace		
	20-30	56.7		
	30-40	294.6		
	40-50	127.6		
	50-60	113.4		14.2
	60-70	142.2		55.5
	70-80	67.4		71.8
	80-90	198.6		56.7
	90-100	1,162.3		56.7
	100-110	6,860.7		241.0
	110-120	4,082.4		43.1
	120-130	1,787.7		595.3
	130-140	113.4		1,120.6
	140-150	56.7		28.4
	150-160	42.6		7.4
	160-180	141.7		
	85-100	1,842.8		
	Sub Total	17,090.8		2,290.7
Unit C	0-10	785.2		1,071.0
	10-20	1,275.3		1,360.8
	20-30	600.0		630.0
	30-40	2,159.4		322.0
	40-50	1,474.2		2,268.0
	50-60	963.9		1,140.2
	70-80	28.4		1,587.6
	40-70*			9,525.6
	80-90	28.4		14.2
	90-100	907.2		14.3
	100-110	3.9		
	Sub Total	8,225.9		17,933.7

Table 5 (Continued)

		Weight in grams	
Location	Plaster		Brea
Unit D			
20-30			14.5
40-50	4.0		
60-70	40.5		0.6
70-80	199.0		5.4
80-90	119.0		7.2
80-120	12,474.0**		
100-110	28.7		3.6
110-120	19.0		31.8
120-130	127.6		297.7
130-140	113.4		12.1
140-150	1.2		18.4
150-160	356.8		
160-170	209.0		7.2
170-180	50.8		
Sub Total	13,743.0		398.5
Feature 1	2,721.6		113.4
Feature 2	34.4		
Feature 3	1,639.7		386.1
Shovel test 1	1,660.8		128.9
Shovel test 2	371.3		1.8
Auger test			
S95/W45			6.2
S95/W50			2.1
S100/W45			0.9
S110/W75	0.1		
S115/W55			1.8
S100/W50			15.4
Surface	12.6		
Total	45,822.4 gr		21,279.5 gr

* Includes very large slabs extending from 40 to 70 cm., retained for study.

** Large slabs in situ.

Whitewash

The use of whitewash at the adobe was confirmed by the thin white coating adhering to clumps of the mortar. The wash was approximately 0.002 m thickness, but none of the mortar fragments was large enough to reveal whether the coating was applied by brush or other means. Although no chemical analysis was performed, the implication is that the surfacing is a whitewash comparable in constituents to other early applications made from lime mixed with fat or tallow, and cactus juice (Whitehead 1980:96). The alternative, that the material is a linseed oil based paint, should be evaluated by analytical studies.

Roof

There were at least two generations of roofing applied to the adobe. Historical documents attest that Bandini brought in brea (asphaltum) to the site in 1840, he testified to a brea roof in 1854 (TCR 1983: 45, 47-48), and more than 21.2 kg of the material was recovered during the excavation, most of it in the lowest levels. Many slabs retain pieces of the Typha latifolia (cattail) used in thatching. The largest single deposit was the mass, 0.2 m thick, found at 0.4 m depth in Unit C. On close scrutiny, there seemed to be discrete "sheets" or slabs from 0.04 to 0.08 m thickness (Figure 11), which might suggest the thickness of application on the roof.

The two closest of the potential sources of the native asphaltum are Soquel Canyon (Prado Dam USGS 7.5' map) or in the better-known Brea Canyon in Orange County (La Habra USGS 7.5' map). At the former, the seep occurs in the Soquel Member of the Puente Formation of Miocene age. No traces were visible in 1971, but the seep was referenced by USGS in 1927 (Hodgson 1980:72-73). From the site, the route of travel would be northwesterly along the east foothills of the Chino Hills, for a distance of approximately 8.8 miles. The Brea Canyon source, still active, is at a greater distance, some 17.6 miles traveling southwest along the Santa Ana River to the southwest side of the Chino Hills. It occurs here in a sandstone of undifferentiated Miocene age, Puente Formation (Hodgson 1980:67-68). The Orange County source,

although more distant, was utilized at least by 1835 when Juan Pacifico Ontiveros petitioned for a rancho, and he specifically retained use rights to the deposit when he sold the land to Bernardo Yorba in 1849 (Carpenter 1982:66-67). Brea was used for both roofing and flooring in the Yorba houses; the use rights were eventually transferred from Ontiveros to Abel Stearns in 1863 (Stephenson 1963:24-26). The Orange County seeps mentioned in these documents are not necessarily identical to the locality mapped today as Brea Canyon. The Cañada de la Brea on the old maps is a side canyon branching east and extending south of Brea Canyon (Carpenter 1982:181). Which of the sources was exploited at the adobe may never be known. Once tar is exposed to the air, it degrades and loses the chemical fingerprints by which buried, anoxic deposits can be sourced. It is possible that sulfur isotope tests might identify the geologic formation, which would provide a general idea of the point of origin (Mankiewicz, personal communication 1983).

The usual manner of building the roof was to fix the joists into the wall, lay cane across the joists, and then a thick layer of thatch. The top-dressing of brea was not without problems. "These roofs are very uncomfortable both for the volcanic smell and the inconvenience of its dropping down by the least heat of the sun forming a pitchy sticky stuff round the house on which it is employed" (Egenhoff 1952: 63). Such an occurrence has been noted at the Plaza Church in Los Angeles where melting brea from the roof fell into the Chinese porcelain bowl used as the Holy Water font (Dewar, personal communication 1983). Bits and pieces of the material were found in all units and levels at the adobe, but ultimately the Bandini roof was removed and buried in a single pit (Unit C) with stems and leaves of cattail still adherent.

The date of this major alteration is not known at present. In Unit C, the brea is overlain by fill containing abundant bits of the plaster and the retaining wall designated as Feature 3. Below the roofing and in association with it are sherds of Southern California Brown Ware, Californio butchered bone, and the early Chinese and English ceramics.

The earliest dated views available at this time which show the roof are the HABS drawings and photographs of 1936; by this time, the adobe was covered by a hipped roof over the eastern two-thirds of the walls, and a shed roof containing a single dormer over the west end. The roof was already in decay and partial collapse, but both shingles and metal surfaces were noted. No archaeological evidence of this final roofing was found, and various theories about the nature and dates of remodeling are offered below in the remarks about architecture.

Nails

It is clear that much of the wood work on the adobe was fastened with cut nails, still in common use as late as 1890 or 1900. The 1887 Sepulveda Block in Los Angeles, for example, was entirely framed with cut nails even in its more urban location. It is just as likely, therefore, that the new roof was built with cut nails as wire, but it is surprising that very few roofing nails were encountered; those recovered were widely distributed in the various units.

The first appearance of nails in Units A and B at 40-50 cm and in Unit D at 90-100 cm (Table 6) is the result of the deposition of melted adobe over the original ground level. The deposition in Unit C, on the other hand, begins at 0-10 cm, and represents the highest proportion of cut over wire nails. Both observations can be explained by the location of the unit behind Feature 3, the retaining wall. After the wall was built, artifact-rich soil was used as a backfill, as shown by the stratigraphy in both Unit C and Trench 1. Some of the nails in this unit may be associated with the brea roofing discarded during the remodeling. The seemingly reversed stratigraphy, with more of the cut nails recovered in the upper levels and the wire nails found at greater depth, is interpreted as further evidence for backfilling, after Feature 3 was superimposed on an existing refuse deposit.

Table 6
Distribution of Nails

Location		Cut	Wire	Unidentified	Total
Unit A	40-50		2		2
	50-60	1	2		3
	60-70	1	7		8
	70-80		4		4
	80-90	1	3		4
	90-100	5	5		10
	100-110	4	9		13
	110-120	8			8
	120-130	1	3		4
	130-140	3			3
	140-150	1			1
	150-160	1			1
Sub Total		26	35	-0-	61
Unit B	No. wall		1		1
	40-50	3			3
	50-60	3	3		6
	60-70	2	1		3
	70-80	6			6
	80-90	4	1		5
	90-100	3	1		4
	100-110	4	10		14
	110-120	56	23		79
	120-130	25	11		36
	130-140	2	1		3
	140-150	1	1		2
	150-160	1	1		2
Sub Total		110	54	-0-	164
Unit C	0-10	11		2	13
	10-20	10	1		11
	20-30	4			4
	30-40	1		3	4
	40-50	4	3		7
	50-60		1		1
	60-70		1		1
Sub Total		30	6	5	41
Unit D	90-100	3	3		6
	100-110	3	7		10
	110-120	3	1		4
	120-130	1	2		3
	170-180		2		2
Sub Total		10	15	-0-	25

Table 6 (Continued)

Location	Cut	Wire	Unidentified	Total
Feature 1	283	7	65	355
Feature 2	7			7
Depression 9	1			1
Shovel test 1 0-30	7	4		11
Retaining wall	5	5		10
Auger test, S10/W60	1			1
Auger test, S120/W50	1			1
Trench 1	<u>6</u>	<u> </u>	<u> </u>	<u>6</u>
Total	487	126	70	683
Per cent	71.3%	18.5%	10.3%	100.1%

5. DESCRIPTION OF ARTIFACTS

Euro-American Ceramics

Stoneware Crockery

These gray or white glazed wares replaced the earlier Red Wares toward the end of the nineteenth century, and crocks, jugs, bean pots, and other utilitarian vessels of this type are still produced. The earlier production from the late nineteenth century to World War I was usually wheel made, the later wares slip cast.

A median sherd (552) from Unit C, north extension, 0-10 cm, is from a large crock or jug 0.9 cm thick. The body is pinkish white (5YR8/2), and the glaze is very light gray (5YR7.5/1). Hardness of the body is 4.5 Mohs, and the glaze is 6.5 Mohs. The same opaque glaze is applied to both the interior and exterior. The fragment is too tiny to reveal if it is wheel made.

Yellow Ware

Often the same firms made both stoneware and Yellow Ware. By the 1880s, two companies were exploiting the excellent clays in the Temescal Valley between Corona and Elsinore: the Pacific Clay Manufacturing Co. and the Elsinore Pottery Co. (Ketchum 1971:14). It is possible that the oval serving dish recovered from Feature 1 was locally made. Although broken, the piece was almost completely reconstructed, 21.5 cm long, 17.0 cm wide, and 4.5 cm high. It is mold made with a light yellow gray body (2.5Y8/2), and a finely crazed, transparent yellow glaze (2.5Y7.5/6) on all surfaces. There are three stilt marks on the base. The body hardness is 3.5 Mohs; the glaze is 5.5 Mohs.

Brown Ware

1. Rockingham type. A wheel made mixing bowl, 31.0 cm (12.2 in) in diameter has a pinkish white body (7.5YR8/2), with hardness of 3.5 Mohs and thickness of 1.0 cm (0.4 in). The glaze on both exterior and interior is very pale brown (10YR8/4), thickly mottled under the glaze with dark reddish brown (2.5YR2.5/4), with hardness of 5.5.

This is a notably well made specimen which would be regarded as typical of the third quarter of the nineteenth century. The glazes are good, and the shape is a truncated cone. It was recovered from Feature 1, although it seems earlier than other dated contents.

Catalogue: Rim sherds: 4A, 4B, 5

Median sherds: 4C, 4D, 4E, 4F, 4G

2. Neriage doorknob. Neriage is the process of using a clay body composed of layers of different colored clays. The two knobs, both recovered from Feature 1, are fine examples of this process, probably made in England about the middle of the nineteenth century.

Catalogue: Doorknob sherd, 6. Neriage earthenware, 5.7 cm (2.2 in) diameter, 2.5 cm thick. Body is striated reddish brown (5YR5/4) and pink (7.5YR7/4). Glaze is dark reddish brown (5YR3/3). Hardness of the body is 3.5 Mohs, and of the glaze, 5.5 Mohs.

Doorknob sherd, 7. Neriage earthenware, same size as above. Body striated of pink (5YR8/4) and dark reddish brown (5YR3/2). Same glaze and hardness as above.

Decorated White Ware

Although no complete marks were found, it would appear that the following are all of British manufacture.

1. Shell edged. This ware was produced by many English potters of the period. The ware first appears about 1779 and by 1783, it had become quite common (Hume 1978:44-45, 1974:126). It remained in production until ca. 1860 (Miller 1980:27-28). Three rim sherds were recovered, representing two different plates.

Catalogue: Rim sherds, 13 and 841. Plate approximately 27.0 cm (10.5 in) in diameter. Body is white (N10), glaze is white (5Y9/1), and decoration is blue under glaze (7.5PB4/8 to 5/6). Hardness is 4.5 Mohs for the bodies and 5.5 for the glazes. Sherd 13 is from Feature 1, while 841 was found on the surface of the southeast slope.

Rim sherd, 433. Plate with scalloped edge. Body is white (N10), glaze is white (5Y9/1), with underglaze

decoration in blue (7.5PB3/8 and 5/8). Body hardness is 5.5 Mohs, and the glaze is 6.5. Recovered from Unit B, 80-90 cm.

The glaze on sherds 13 and 841 is slightly rippled and would be earlier than 433, which is flat and even. The latter is more crudely made and probably dates to the 1850s or 1860s, while the other two are earlier. The application of this decoration on white ware bodies dates from ca. 1830-1860s (Praetzelis 1980:7-7; Price 1979:17-18). The underglaze is carefully applied by individual brush strokes on 13 and 841; on 433, the color is applied by rotating the vessel under the brush, a development which Hume considers as late (1978:44-45).

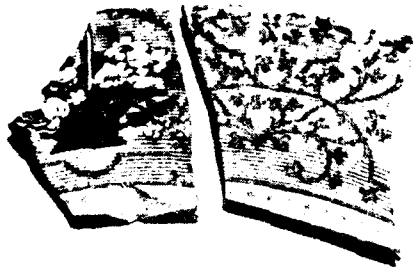
2. Transfer printed. Of the 29 sherds of blue transfer printed ware, only a single fragment (987) retained even a partial maker's mark, "MA..." A careful scanning of standard reference books illustrating patterns also failed to provide any identifications (Coysh 1972; Williams 1978, etc.). However, certain of the designs and colors seemed consistent with dates of the first half of the nineteenth century or slightly later. Twenty-two of the sherds came from Trench 1, one with excellent context within Unit C, four from the surface during clearing of Feature 3 and the adjacent southeast slope, one (840) from the northwest corner of the fenced enclosure in front of the adobe, and only a single example (17) from Feature 1.

Coysh noted that by about 1830, the rippled, slightly blue-tinged glazes had been improved to the smooth and colorless type preferred by both producer and customer (1971:7). However, perfect glazes did exist earlier, while colorless glazes with a slight rippling probably continued after 1830. Six sherds (987, 969/629, 980-982) show slightly rippled but colorless glazes. All of these could date from the 1840s or earlier. Colorless glazes, smooth and without crazing, are present on 801, 825, and 993. The remainder have smooth, colorless glazes, with very fine crazing.

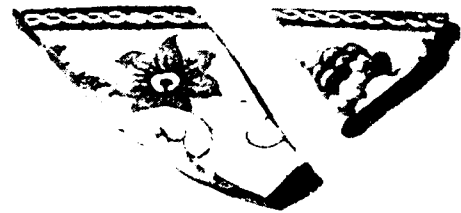
Catalogue: Colorless, rippled glazes

- a. Base sherd, plate, 987. Partial mark "MA...".
Fine engraving of a castle and trees. Same as i. ?
- b. Rim sherds, plate, 980, 981; median, 842. Diam.
approx. 27.0 cm (10.6 in). Scalloped edge with
border of baskets of flowers and vines in a "Bar-
oque" style on a background of parallel lines in
pale blue (5PB3/4-5/6). Figure 12a.
- c. Rim sherds, oval platter, 629, 969. Corded edge
design, flowers in very fine stippling (5PB4/6-7/6).
Colorless, smooth glaze with fine crazing. Figure 12b.
- d. Rim sherds, paneled plated, 982, 983; median, 984,
986. Cartouches with a Gothic cottage, between
bunches of roses on a background of parallel lines,
a border of fleur-de-lys cusps at the well (5PB7/4).
- e. Rim sherds, paneled plate, 995; median, 992, 992A.
For design, see d. above (5PB7/6).
- f. Bowl sherds, rim and side, 978; rim, 977; median,
989, 990. Diam. 14.0 cm (5.5 in). Exterior scene
in a garden, man seated on a bench beneath a tree
being approached by another man with hat in hand;
cottage in the background and a lake with hills;
interior: elaborate border alternating groups of
vertical stripes and wider bands, garlands at the
base, stippled (5PB5/6, 7/4, 7/6).
- g. Median sherd, plate or platter, 979. Design runs
in a band from the rim into the well, parallel zig-
zag lines with a border of fleur-de-lys finials al-
ternating with cusps; arabesques of leafless tendrils
on both interior and exterior (5PB7/7).
- h. Median sherd, plate, 991. Flowers (5PB7/6).
- i. Rim sherds, plate, 986, 988. Diam. approx. 22.0 cm
(8.6 in). Lip border of festooned lines, view of
walled city with towers above a lake or river
(5PB5/6). Same as a. above ? Figure 12d.
- j. Median sherds, plate or platter, 17, 840, 959. Sherd
959 is 0.7 cm thick. Stippled landscape with clouds
(2.5PB7/4, 4/8, 8/4, 8/2).

Figure 12. Decorated Ceramic Sherds



a. Blue transfer
(980, 981)



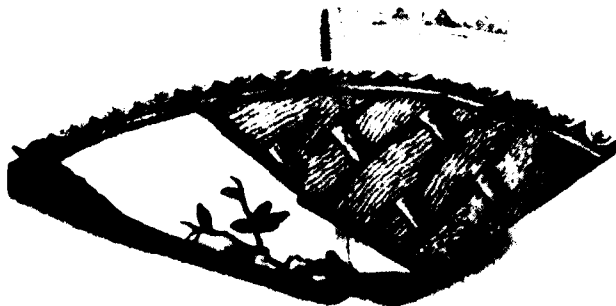
b. Blue transfer
(629, 969)



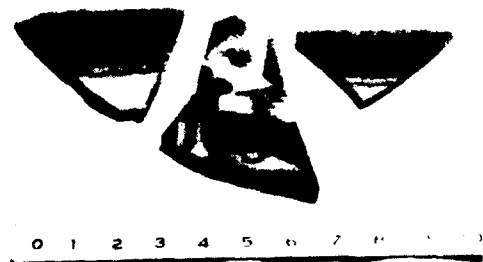
c. Blue transfer
(982, 983)



d. Blue transfer
(986, 987, 988)



e. Brown transfer
(10)



f. Chinese porcelain
(997, 999, 1000)

Colorless, smooth glazes without crazing

- a. Rim sherd, 994. Interior and exterior decorated with Baroque S scrolls and flowers (5PB4/4-7/6).
- b. Rim sherd, paneled plate, 817. Exterior: leaves or vines, larger leaves with prominent veins, smaller leaves stippled. Interior: landscape with trees like 978.
- c. Median sherd, 993. Interior and exterior pattern of flowers on a trellis of diamond shapes (5PB4/4).
- d. Base sherd, double foot rim, 825 (Coysh 1971:9). Slight bluish color in glaze, geometric pattern of cross-hatched lines, a heavy wide border surrounding a pattern of squares with a dot in each center (2.5PB3.5/8). Could be the border of a Chinoiserie decoration (cf. Coysh 1971:19, Figures 14-15).
- e. Median sherd, 801. Decorated interior and exterior with leaves and flowers (5PB3/6).

3. Red transfer printed.

Catalogue: Base sherd, plate, 976. Decoration in very fine line and dots, amoeba-like shapes, some with hooked cilia and dots; at the well, a border of alternating circles with a dot in the center and fleur-de-lys with garlands below (2.5R4/8). The developed foot, crazing, and design suggest last half of the nineteenth century. Trench 1.

4. Brown transfer printed.

Catalogue: a. Rim sherds, bowl, 10. Diam. 13.0 cm (5.1 in). Pattern of woven planks and pole fencing, and plants (7.5R3/2). Feature 1. Figure 12e.

b. Median sherd, cup, 816. 5Y2.5/1, 2.5/2. Surface, southeast slope.

c. Handle, cup, 608. Oval in section, 1.0 x 0.55 cm. Wreath design of three laurel leaves with berries (2.5YR3/4). Unit C, 40-50 cm.

All of the brown transfer printed ceramics are datable to the last half of the nineteenth century.

5. Black transfer printed

Catalogue: a. Rim sherd, cup, 14; median, 820. Diam. approx. 9.0 cm (3.5 in). Sherd 14 from Feature 1; 820 on surface southeast slope below Unit C.

b. Base sherd, saucer, 834. Developed foot. From surface of southeast slope.

The pattern includes flowers carefully outlined and stippled, on the exterior (N2). All are datable to the last half of the nineteenth century.

6. Turquoise decalcomania

Catalogue: Median sherd, plate, 843. Southeast slope, on the surface (2.5B5/6). Late nineteenth or early twentieth century.

Rim sherd, 20. Feature 1. (5B6/4).

7. Flow blue. This is the fluxing effect of lime or ammonium chloride on transfer printed wares when the salts are placed in the sagger prior to glaze firing. The flowing or blurred design became popular at the beginning of the twentieth century, although the technique was developed in the 1820s.

Catalogue: a. Median sherd, saucer or small plate, 15. Border of fleur-de-lys in various sizes (5PB2/2, 2/4). Ca. 1900.

b. Sherds, cup, rim, 962; median, 961, 963, 964, 065. Pattern of leaves in intense ultramarine blue (2.5PB3/8), very finely crazed. Ca. 1900.

8. "Peasant Enamel Ware" (City Museum, Hanley, Stoke-on-Trent), also called "Painted Staffordshire Whiteware" (Victoria and Albert Museum, London). The type is an industrialized folk art in which factory made bisque-fired bodies were sent to be underglaze decorated and sometimes overglazed as a home or cottage industry.

Catalogue: a. Rim sherd, bowl, 815. About 17.0 cm (6.7 in) diam.

b. Median sherd, carinated, 975.

c. Median sherd, plate, 974.

All have a pattern of yellow-green leaves (2.5GY6/6), with fine crazing. Last half of nineteenth century.

9. Overglaze gold

Catalogue: a. Handle, cup, 59, 68, 71. Gold line on top. All,
Feature 1.

b. Handle, cup, 64. Worn gold on front. Feature 1.

c. Sherd, saucer, 740. Gold line at the well.

Shovel test 1, 60 cm.

Undecorated White Ware

This category represents the most common table service in California after 1870. Although the completion of the transcontinental railroad offered some advantages to the midwestern and east coast potters, the greater efficiency of the English manufacturers and the low cost of transportation by sea made them dominant throughout the nineteenth century (Frierman 1980:207-209, Tables 7, 9). Plain white wares, when they first became common about 1850, commanded the same price as transfer print decorated wares (Miller 1980:29, 35). By the end of the century and into the first decades of the twentieth century, they had become the least expensive and lowest in status.

Features 1 and 2, datable to the last quarter of the nineteenth century, yielded 68.0% of the total of 147 sherds, with the balance recovered almost exclusively from the surface or the upper levels of the units.

Catalogue:

- a. Marked wares from Feature 1
 1. Sherd, saucer, diam. of 15.0 cm (5.9 in). "Thomas Furnival & Sons," Cobridge, England. 1871-1890 (Godden 1982:263-264, 1650).
 2. Sherd, saucer, diam. of 16.0 cm (6.3 in). "Thomas Hughes, England." Thomas Hughes & Son, Longport, Burslem. 1930-1935 (Godden 1982:339-340).
 3. Sherd, plate. "Royal Ironstone C...Charl..." Charles Meakin, Hanley, England. 1883-1889 or 1870-1882 (Godden 1982:426, 2596).
- b. Sherd, handle of large pitcher, 814. Molded Corinthian capital and fluted column. Neo-Classic style, est. 1890-1910. Surface, southeast slope.
- c. Sherd, median, 19. Glaze and body creamy white (2.5YR 8.5/2). Hardness of body 6.5 Mohs; glaze 6.5 Mohs. Est. twentieth century. Feature 1.

Table 7. Occurrence of Undecorated White Wares

Location	Plates	Saucers	Cups	Chamber Pots	Pitchers	Misc. Sherds	Total
Feature 1	21	8	21	2	1	28	81
Feature 2			11			3	14
Feature 2, auger				2		3	5
Feature 3	1		1			1	3
Trench 1	2	1				4	7
Shov. test 1				1		6	7
Shov. test 2	1			1		3	5
SE slopes				1	1	3	5
Ravine						1	1
Depression 11	1					1	2
Auger test, S100/W65						1	1
Unit B							
60-70						1	1
110-120						1	1
120-130	1						1
Unit C							
0-10	1		1			4	6
10-20	1	1				1	3
40-50						1	1
Unit D							
40-50						1	1
100-110						1	1
Surface trash, east	—	—	<u>1</u>	—	—	—	<u>1</u>
Total	29	10	35	7	2	64	147

Colored Body Stoneware

The single example is an unusual vase, 1, with both the body and glaze of pale blue (7.5PB7/6). The glaze is clear, over a colored whiteware body. The hardness is 4.5 Mohs for the body and 6.0 Mohs for the glaze. The piece is mold made with a design of a rough-barked tree trunk covered with the leaves and fruit of a vine. From the five sherds, the rim was established as 14.0 cm (5.5 in) in diameter. Recovered from Feature 1, the piece represents the first third of the twentieth century.

Electrical Porcelain

A strain, closed end insulator (831, Tod 1977:60) in a trash scatter west the adobe, is typical of modern forms still in service. It has a white body (N9) and black glaze (5YR2.5/1), both with hardness of 6.5 Mohs. Length is 5.6 cm (2.2 in), and diameter is 4.0 cm (1.6 in).

Brick

1. Teja (floor tile). Very coarse body with many white inclusions, very roughly made, 918. The exterior is a mottled weak red (2.5YR5.5/2); below the surface the color is reddish brown (2.5YR4/4); and the core is black-gray (2.5YR4/1). The fragment is 4.5 cm (1.8 in) thick, with a dark core of 2.5 cm (1.0 in). Hardness is 2.5 Mohs. The example was recovered in Trench 1 in association with Chinese ceramics, Southern California Brown Ware, and early English transfer printed white ware. First half of the nineteenth century.

2. Common brick, wire cut. These bricks, all from Feature 1, were probably made in the local area as there are many excellent sources of clay. It would appear that they were used as part of the 1890 remodeling, as they are mortared with the same plaster used on the walls.

- Catalogue:
- a. Red, (2.5YR5/6), 1006. 20.5 x 10.2 x 6.0 cm.
 - b. Red, (2.5YR4.5/6), 1007. 21.0 x 10.0 x 6.0 cm.
 - c. Red, (2.5YR5/7), 1008. 20.5 x 10.1 x 6.2 cm.
 - d. Frag., red, (2.5YR4/8), 1009. Recessed lozenge.
 - e. Frag., red, (10R5/6), 1010. Fine body.
 - f. Frag., red, (2.5YR4/7), 1011. Sand temper.

Cream Ware, Salt Glazed

A single sherd (813) of this distinctive ware, usually regarded as relatively early, was recovered during the clearing of Feature 3, south of the adobe. Both body and glaze are a creamy white (2.5Y8/2). The glaze is rough and very hard, 7.5 Mohs, contrasting to the body of 4.5 Mohs. The sherd has molded concentric lines on the edge. It was most likely manufactured in England during the nineteenth century.

Unique Vessel

Two sherds of a bowl (3) from Feature 1 are unlike recognized types. The shape is a truncated cone with a collared rim, 22.0 cm (8.7 in) diameter at the lip, 16.0 cm (6.3 in) at the base, and 11.7 cm (4.6 in) high. The rim collar is 3.0 cm (1.2 in) wide. The vessel is wheel made, with body and glaze hardness of 3.5 Mohs. The exterior collar rim is very pale brown (10YR7/4), a clear glaze on a very pale brown body (10YR8/3). The exposed surface where it is unglazed under the collar is light reddish brown (5YR6/4); the interior and exterior, except for the collar, are roughly glazed with an unsuccessful matte, dark reddish brown (5YR3/2). The total effect is strange, and the product may be an experiment or reject from one of the yellow ware potteries of the area. Figure 13a.

Porcelain

1. American Hotel China. This ware was the American solution to porcelain. The first experiments date from the last quarter of the nineteenth century, but its major impact on the market began after the turn of the century. The ware is hard and vitreous, but translucent only in very thin section. While not as hard as true porcelain, it is much easier to manufacture, and it compensates by being thick and characteristically by having thick, rounded edges that resist chipping. The body may be colored.

Catalogue:

- a. Sherd, plate, 967. Body white (N10). Glaze: exterior black (N1), interior white (5Y9/1). Trench 1. Est. 1950-?
- b. Sherd, cup base, 830. Body white (N10); glaze white (5Y9/1). Green backstamp "xxRACUSE...CHINA...x2-A U.S.A." Syracuse China, ca. 1963-1973 (Lehner 1980:146-147). Surface.

2. True porcelain. The lack of nineteenth century porcelain, other than Oriental, is surprising. The only sherd recovered was a surface find, probably a European manufacture of the twentieth century. It is a plate base fragment (838), with molded petal design. The body is granular and white (N9); the glaze has a bluish tinge, also N9.

Mexican Lead Glazed Earthenware

This ware is the loza corriente of contemporary usage, the characteristic household pottery of Mexico. Such wares were widely traded from the seventeenth century onward, although after the annexation of California and the availability of other cooking pots, the trade seems to have declined. The single specimen seems typical of those known from west Mexico. Figure 13b.

Six sherds, 2, represent a cazuela, a wheel made, cylindrical cooking pot. There is the stub of a loop handle that rose from the lip; there was probably another similar handle on the opposite side, but that part of the rim is missing. If whole, the vessel would be about 16.5 cm (5.5 in) in diameter and 11.7 cm (4.6 in) high. The body is red (2.5YR4.5/8), with a thin wash of dark red slip (2.5YR3.5/6) covering the exterior from lip to the base. A very crudely applied red glaze (2.5YR4/6) begins 1.0 cm below the lip and covers the interior. The piece shows a great deal of wear, with the glaze worn off in the bottom of the interior and on the sides. The only west Mexican ceramic recovered during the test, it was found in Feature 1.

Pre-Columbian Burnished Ware

Sherd 827 is a handmade, burnished, and incised bowl fragment, 16.0 cm (6.3 in) in diameter. The body is red (2.5YR5/6), with a thin, dark reddish gray (5YR4/2) core present where the walls are thicker than 0.3 cm. The surface has black (5YR2.5/1) fire marks on the flat base. The sides are an even reddish brown (5YR4/4), incised with a pattern of one line at 45° and nine opposing lines, also at 45°.

The bowl was found on the surface west of the adobe near Feature 1. It was wrapped in white toilet paper, with the date 4/17/48 written in pencil on the inner rim, seemingly the date when it was collected. There is no way to know whether it had been found on this site, or collected elsewhere and dropped here. This loss of provenience is particularly unfortunate, since pre-Columbian pottery is unusual on California sites. Figure 13c.

Figure 13

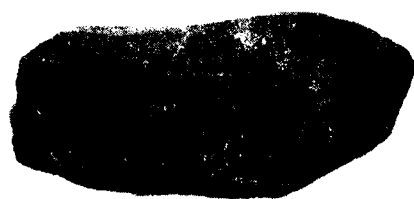
SELECTED CERAMIC
SHERDS



- a. Wheel made
shallow vessel (3)



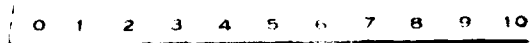
- b. Cazuela (2)



- c. Pre-Columbian fragment
(827)



- d. Southern California
Brown Ware, painted
(927)



Chinese and Japanese Ceramics

All of the Chinese ceramics were recovered from Trench 1 or in the immediately adjacent area during the clearing of Feature 3. With the exception of the one fragment of Fujian white porcelain, they are all Canton wares with identical pale blue glaze (5B7.5/2) on a hard, white porcelain body. The underglaze painting is in middle blue (5PB3/4 to 5PB4/6), and of fine quality. Both glazes and bodies are uniformly 6.5 Mohs in hardness, between feldspar (6) and quartz (7).

The small sample precludes a definitive statement, but suggests a date of 1840 to 1850-1860. The sherds are not as thin as similar material from the Ontiveros adobe, ca. 1815-1835, and the fine "Trade China" porcelain and Nanking wares found there in association (Frierman 1982: 57-59) are not present at Riv-653. On the other hand, the later wares so common in the Mother Lode, Benicia, and at Tucson (Frierman 1983: Quellmalz 1972:148-154; Olsen 1978:1-50) are also absent here. The Chinese ceramics of the period from 1840 to 1860 are the least well documented of Chinese wares found at California sites. The crucial decade from 1840 to 1850 should represent a transition from the Chinese wares imported by Mexico, America, and Europe for resale in California, to those wares brought and imported for use by the Chinese population in California after the Gold Rush.

1. "Ginger jar." The name has been broadly applied to an ancient shape commonly used for shipping food products, although ginger has not been exported in such vessels during the last few centuries. Ginger preserved in syrup has been shipped in the familiar green glazed hexagonal, relief decorated squat jars that can be found in any Chinese grocery store (Frierman 1983; Olsen 1978:37, Figure 8).

The three jar sherds from Feature 1 (996A, B, C) are different; they appear to represent a round jar, and one of the sherds (996B) has a molded design or ideogram. The glaze is an opaque middle green (5GY5/2), rather like the finish on Chinese roofing tiles. The body is a very pale brown (10YR2.5/8) with a clear glaze on the interior neck, although the interior walls are unglazed. The hardness of the body is 4.5 Mohs, and of the glaze 6.5 Mohs.

These sherds come from a vessel that is unlike those previously described (Frierman 1983; Olsen 1978:37; Chace 1976:522). It is neither the typical "ginger jar" of antique shape nor the usual preserved ginger jar now in use. It probably did not contain a fluid, since the interior is not glazed. It is an earthenware of South Chinese origin.

South Chinese Porcelain

1. Clear glazed porcelain. A small but consistently present group of porcelains are the clear glazed, highly translucent, pure white bodied wares. They occur throughout the nineteenth century at sites on the west coast of the United States and Canada (Frierman 1982:65-66; Quellmalz 1972:154). They are currently understood to come from the Tehwa (Te-hua) district of Fujian province. Sherd 1005 was recovered with other early materials in Trench 1. Rim sherd of a saucer or small plate, it has white body and glaze (N10).

2. Bluish glazed porcelain. Five sherds, all from Trench 1, are typical Canton wares, probably dating from the first half of the nineteenth century.

Catalogue: a. Rim sherds, plate, 999, 1000. Canton border. Diameter estimated at 30.0 cm (11.8 in), larger than usual, but the rims are irregular and size may be somewhat smaller. Figure 12f.

b. Median sherd, 997. Willow pattern. Figure 12f.

The above may be sherds of a single plate (Schiffer et al. 1975: 17, Figure 36; 34, Figure 91; 169, Figure 454).

c. Median sherd, plate, 1001. Inner border of a Canton plate (Hume 1974:Figure 84). Ca. 1810-1835.

d. Median sherd, bowl or other hollow form, 998. Wheel made and vigorously painted in a broad style.

Japanese Porcelain

A very small sherd, 968, of a small bowl or tea cup was recovered in

Trench 1. Japanese wares of the nineteenth century are unusual before the last quarter of the century and, where present, tend to be the overdecorated Satsuma and other wares whose florid embellishments satisfied the Victorian taste. However, this sherd represents another tradition. The body is a very fine white (N10) porcelain, the glaze is clear, and the exterior has been coated with a thin, matte overglaze of yellowish red (5YR5/7). The interior is hand painted with a design of branches in underglaze light grayish blue (2.5PB7.5/2 to 6.5/2). The fragment could be Arita or a Kyoto ware, or a modern Seto ware.

Chinese or Japanese Red Ware

A very small median sherd, 590, was excavated from Unit C, north extension, 30-40 cm. At first thought to be an American Red Ware, on examination it was determined to be extremely hard stoneware; the body is 7.5 Mohs, between quartz (7) and topaz (8), and the glaze is 6.5 Mohs. American Red Wares normally range from 2.5 to 3.5 Mohs for the body. The other possibility would be the Rhenish stonewares which are fired in a reducing atmosphere, but these usually have gray bodies or gray cores and are most often salt glazed. This sherd has a very fine, dense, hard weak red (10R4/4) body with a very shiny reddish black (10YR2/1) glaze. It could be of either Chinese or Japanese origin.

Southern California Brown Ware

The Brown Ware present at the Bandini-Cota Adobe is representative of the early years of occupation at the site. The general shortage of both table ceramics and cooking vessels had led to the expansion and continuation of this craft into the 1840s and 1850s, as illustrated at La Casa de Rancho los Cerritos, the Ontiveros Adobe, and elsewhere in southern California (Evans 1969:71-81; Frierman 1982:21-33). At present, the terminus of this industry in supplying a general household need in the region is unknown, although it probably ended by 1860 when ample supplies of dishes, pots, and pans were available. In the Indian rancherias, the craft persisted into the early twentieth century.

Sixty-one sherds of Southern California Brown Ware were recovered: 42 from Trench 1, 10 from Unit C, five from Feature 1, and two each from Unit D and Shovel Test 2. Significantly, 52 of the sherds were found in good association with blue transfer printed English wares and Chinese trade ceramics.

The pottery belongs within the Colorado Desert classification as the Indian workers at Rancho el Rincón were Cahuilla (TCR 1983:44, 50). A number of characteristics for this group have been recorded; forming the base of a vessel by molding in a basket is an ancient Yuman practise which was transmitted to the Shoshonean Cahuilla (Rogers 1973:8, Plate 4b; Van Camp 1973:26, 29), as was black painted decoration among the Pass and other Cahuilla (Rogers 1973:26, 29) and the use of mineral temper (Rogers 1973:27, 29). The contemporary Gabrielino potters more typically used chaff temper, rare if ever employed basket-molding, and never applied painted decoration (Frierman 1982:21-33). In common with all Southern California Brown Ware, the pottery was made with the paddle-and-anvil technique, utilized locally available clays, and was fired in the open.

The material recovered is extremely variable. As Van Camp noted, pottery making was a recent acquisition and "in contrast to the traditional styles of Southwestern pottery, was still in a dynamic stage

of experimentation and innovation" (1979:52). This, combined with the number and small size of the sherds, makes any final judgements premature. However, it does appear that the clays are sufficiently different to suggest that both locally produced pottery and vessels from other sources were being used. Several categories have been established for the purposes of description, but the quantities are small and the conclusions tentative.

Slip Ware

Body: The bodies contain a large amount of both angular and clastic quartz and feldspar which appear as white dots of uniform size, 1.0 - 0.1 mm. All are Mohs hardness of 3.5. All are evenly and thoroughly fired, except for sherd 781 which has a reddish brown core.

Slip: A very thin coating of slip. All are median sherds.

Table 8. Slip Ware

<u>Sherd</u>	<u>Location</u>	<u>Color of Slip</u>		<u>Color of Body</u>		<u>Thickness in cm</u>	<u>Remarks</u>
9(4)	Feature 1	reddish brown	5YR5/4	yellowish red	5YR4/6	0.5(3) 0.8(1)	
	Unit C						
573	10-20	reddish brown	5YR5/4	red	2.5YR5/6	0.7	
609	40-50	reddish yellow	5YR6/5	yellowish red	5YR4/6	0.6	ext. fire blackened
631	70-80	reddish gray	5YR4/2	red	2.5YR4/6	0.5	ext. and int. fire blackened
632	70-80	reddish gray	5YR4/2	red	2.5YR4/6	0.5	"
633	70-80	reddish gray	5YR4/2	red	2.5YR4/6	0.4	"
639	80-90	reddish brown	5YR5/4	yellowish red	5YR4/6	0.5	ext. fire blackened
781(2)	Shovel test	light				0.7 -	core reddish
	2	reddish brown	5YR6/4	red	2.5YR5/6	0.9	brown 5YR5/3

Thin Ware

Four median sherds share a number of traits; they are thinner than most others (0.3 - 0.5 cm), have little temper, and are self slipped. The hardness is 3.5 Mohs. Only sherd 670 has a gray core. They could be fragments of an olla.

Catalogue:

- a. 670. Unit D, 100-110 cm. Exterior reddish brown (2.5YR5/4); interior light reddish brown (5YR6/4).
- b. Trench 1. Light reddish brown (5YR6/3). Exterior fire marked.
- c. Trench 1. Same color as b. Interior fire blackened.
- d. Trench 1. Same color as b. Interior fire blackened.

Cazuelas

This group of open cooking pots was a coarse ware, with only the surface somewhat smoothed. The body contains mineral temper; hardness is 2.5 Mohs, and thickness varies from 0.7 to 1.0 cm. The surface color is yellowish red (5YR4/6); the thick core is black (5YR2.5/1). All exteriors are fire blackened.

Catalogue:

- a. Rim, 9A. Feature 1.
- b. Median, 630 (Unit C, 70-80); 638 (Unit C, 80-90); and the following, all from Trench 1: 932, 938, 940, 942, 943, 945, 946, 9947, 954, and 955.
- c. Rim, 950. Trench 1. Est. diam. 17.0 cm (6.7 in).

Cazuelas and Braziers

These are more carefully made than the previous group. All are smoothly self slipped and contain a moderate amount of mineral temper, 0.6 - 1.2 cm. thick. The body color is reddish brown (5YR5/3.5) with very dark gray (5YR3/1) cores. All are median fragments. Sherd 622 is from Unit C, 60-70; all others from Trench 1.

Catalogue:

- a. 622. Evenly and thoroughly fired, fire blackened exterior and interior.
- b. 920. Interior fire blackened.
- c. 922, 931, 933. Exterior fire blackened.
- d. 935. Exterior fire blackened. Interior surface not well finished.
- e. 936. Exterior fire blackened.
- f. 937. Exterior and interior fire blackened.
- g. 939. Interior fire blackened.
- h. 944. Interior fire blackened. Exterior roughly finished.
- i. 948. Interior fire blackened. Sherd is 1.2 cm thick, with core of 0.9 cm.
- j. 957. Exterior and interior fire blackened.

Fire Blackened Sherds

This group is probably similar to those described above, but they are completely blackened, interior, exterior, and body. The sherds are 0.6 cm thick. Sherd 958 is a rim; the others are medians.

Catalogue:

- a. 649. Unit C, 110-120 cm.
- b. 941, 952, 953, 956, 957, 958, all from Trench 1.

Olla ?

Five median sherds (921-925), all from Trench 1, could be part of the same vessel, possibly an olla. The fragments have moderate mineral temper, and a smooth surface with flecks of mica. The color is a uniform reddish brown (5YR5/4-5/5); sherd 921 has a fire cloud of reddish gray (5YR5/2). The pieces are 0.6-0.8 cm thick. Cores are variable from none to 0.5 cm thick and, where present, are black (5YR2.5/1). The ware is probably not locally made.

Basket Imprinted Interiors

In the desert and in the southern coastal area, a basket was often used as a base for the vessels, although the marks were usually

obliterated (Rogers 1973:8; Van Camp 1979:52). This group, retaining such impressions, was recovered from Trench 1; all are median sherds. The fragments are reddish brown (5YR4.5/3) with thick, weak red cores (2.5YR4/2) and moderate to heavy mineral temper.

Catalogue:

- a. 903. Exterior fire blackened.
- b. 927. Exterior painted in very dark gray. Figure 13d.
- c. 934. Exterior fire blackened.
- d. 949. Exterior fire blackened. A pebble 0.7 cm is in the temper.

Olla Neck Sherd

Sherd 919 is probably another exotic import. The exterior is self slipped and smooth, light reddish brown/pink (5YR6.5/4); the interior is light red (2.5YR5/8) and rather rough. The body has little temper. It is red (2.5YR5/8), evenly and thoroughly fired, with a hardness of 3.5 Mohs. The vessel would be approximately 10.0 cm (3.9 in) in diameter, representing the neck of an olla. Found in Trench 1.

Olla or Bowl Sherd

Also from Trench 1, sherd 926 is from the wall of an olla or bowl. The body has very little temper. It is 0.6 - 0.8 cm thick, red in color (2.5YR5/8), with a gray core (5YR6/1) which is 0.4 - 0.5 cm thick. The self slipped surface is red (2.5YR5/6) with a slight fire blackening on the exterior.

Unidentified

One flat, median sherd has only a single exterior surface remaining, and cannot be positively identified. It is heavily fire blackened to dark gray/gray (5YR4.5/1), with interior color of reddish brown (5YR4/3). Only 1.2 cm of thickness remains of a piece which would have been thicker. The fragment has many small pores (0.1 cm). It could represent a burned teja or a large, thick vessel. Recovered in Unit D, 130-140 cm (683).

Glass Artifacts

A very thorough group of clandestine diggers had found trash pits on the flat area southwest of the adobe. Although a collection of 51 artifacts, predominantly whole bottles, was removed, items which were broken and without value to the collectors were redeposited in their deepest excavation, Feature 1. The loss of original provenience made it impossible to determine stratigraphy or order of deposition, but the datable glass artifacts, together with marked English white wares, constituted a tightly dated sample whose span can probably be applied to several of the trash-filled depressions. The 12 marked bottles recovered date from 1875 to 1905. Intrusive materials such as a modern bread wrapper of waxed paper marked "Sliced French [Bread]" and a Foss Brothers Dairy milk bottle (314) which were near the base of the redeposited materials were obvious intrusions which suggest a post World War II date for the disturbance. Four other bottles from the 1930s and 1960s found in the ravine at a greater distance south of the adobe represent more casual discards during the later period.

Trench 1, which represents the early deposits, contained a total of only 12 glass sherds, none of which was marked. One object, a milk bottle finish for a paper cap closure, is clearly twentieth century; the other fragments could be as early as the ceramics but are too small to identify with certainty. In Unit C as well, there was very little datable glass, mostly window pane fragments. Bits of window pane appeared throughout the excavation and at all levels.

Bottles from Feature 1

72. "Seville Packing Co., New York" on base. Green glass, automatic bottle machine (ABM).
- 78, 79, 80, 81. "FHGW 36" on 78 and 80; "FHGW 37" on 79 and 81. Frederick Hampson Glass Works, Salford 5, Lanc., England, ca. 1880-1900 (Toulouse 1972:202). Brown glass, two-piece mold, beer bottles.
198. "FHGW 33." Same maker, aqua glass.
82. "CCG Co. 8." Cream City Glass Co., Milwaukee, 1888-1894 (Toulouse 1972:119). Brown glass.

83. "C & Co. LM 9." Cunninghams & Co., Pittsburgh, 1879-1907
(Toulouse 1972:119). Brown glass.
- 84, 85, 86. "SB & G Co." Mold numbers "9" on 83; "H" on 85; "O" on
86. Streater Bottle Glass Co., Streater, Illinois, 1881-1905
(Toulouse 1972:461-463). Brown glass, two-piece mold.
97. "Roman Eye Balsam." Embossed on clear glass.
98. "F" embossed on light blue, frosted glass.
- 99, 100. "[C]od" "[Live]r Oil."* Clear glass, paneled bottle.
108. "A" in a circle. Two possible identifications: American Glass
Works, Richmond, Virginia, 1908-1935, an early installation of
ABM equipment ca. 1916 (Toulouse 1972:42); or, more likely,
Armstrong Cork Co., Glass Division, Lancaster, Pennsylvania,
1938-1969 (Toulouse 1972:24-25, 544). Clear glass, ABM, flat
flask.
191. "L" in horizontal oval, over "8". Latchford Glass Co., Los An-
geles, ca. 1925-1938 (Toulouse 1972:314-316). One gallon jar,
clear glass.
192. "FERRV".* Jar lid sherd, clear glass, embossed.
193. "SOV[A]".* Bottle panel sherd, clear glass.
- 196 and 197. "C7 PAT NOV 96 152". Base sherds, aqua glass, post 1896.
199. Long necked, pyramidal bottle, aqua glass, 21.5 cm (8.5 in)
tall, base 4.1 cm by 3.9 cm (1.6 x 1.5 in). Sides richly orna-
mented with ribs and grooves. Bottles of this type were used
for hot sauce and pickled hot peppers.

A similar but not identical bottle was patented on Sept. 28, 1875
by George C. Owens, Red Bank, New Jersey; another, similar
but hexagonal, was patented by Durkee in 1874 (Zumwalt 1980:
127-129, 321).
204. "Scott's Emulsion" on front, "Cod Liv[er] xxx with Lime" * on
side panels, aqua glass. Could be any of several bottles used
from 1879 to ca. 1900 for a very popular product of cod liver
oil with hypophosphites lime and soda, made in New York (Devner
1968:85; Wilson and Wilson 1971:82, 137).
206. "[GORD]ON'S". Aqua. Probably Gordon's gin, ca. 1890 - 1906 or
-1916 (Wilson and Wilson 1968:74).
280. "Foss Bros. Dairy/Half Gallon Liquid". Dairy operated at 6641
Riverside Drive, Chino, since 1889. Clear glass with applied

red color, paper cap, post 1935 (Munsey 1970:191-192).

Bottle from Unit A, 40-50 cm

325. Eagle on "A" embossed three times on the shoulder of a brown glass ABM with screw finish. Anheuser Busch beer. Base is marked with TMC monogram of Thatcher Manufacturing Co., 1900-1946, or Thatcher Glass Manufacturing Co., since 1946, Elmira, New York (Toulouse 1972:496).

Bottle from Depression 4

730. "C" in star. Star City Glass Co., Coventry, Rhode Island, since 1966 (Toulouse 1972:486). Clear glass, base sherd.

Bottle from Shovel Test 2

775. "GC" in joined diamond monogram. Glass Containers Corp., Fullerton. This mark has been in use since 1945 (Toulouse 1972:220). Clear glass, screw finish, ABM, sauce bottle.

* Notes

- Ø - broken through the letter
- [A] - letter assumed
- xxx - letter(s) missing

A tabulation of all unidentifiable glass fragments by color and provenience is provided in the Appendix as Table 14.

Clothing

Buttons

Most of the buttons were recovered from Feature 1, where glass examples were the most numerous, followed in order by shell, plastic, and metal (Table 9). Although only about half as many came from within the walls, these were mostly shell. No lettering or manufacturer could be discerned on the metal specimens. The collection is most representative of turn of the century clothing of men, women, and children. Further details are provided in Table 15, Appendix.

Table 9. Distribution of Buttons

Location	Glass	Plastic	Shell	Metal	Total
Feature 1	17	6	8	2	33
Feature 2	1				1
Unit B	4		10	3	17
Unit C				1	1
Auger test	<u>1</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>1</u>
Total	23	6	18	6	53

Bead

A spherical pink glass bead (412), 1.0 cm in diameter, was recovered from Unit B at 60-70 cm.

Leather

The contents of Feature 1 included 1134.0 g of leather, almost all of it representing fragments of men's and women's foot wear. Two small soles, approximately 12.0 cm long and 5.0 cm wide, would be from a child's shoe. The collection included 14 heels, from 6.5 to 5.0 cm wide, made with cut nails; other parts and fragments included eyelets, grommets, and screws of brass. The fragments demonstrated the use of shaped lasts and tops sewn to bottoms. The presence of brass screws in the heels and soles is some indicator of age; Army boots, for example, used brass screws in the period 1872-1888 (Brinckerhoff 1976:4, 19).

Other

Additional artifacts related to personal use would include parts of combs and a brass watch chain with fob, possibly gold plated when new, both from Feature 1, and a button hook from Unit B, 120-130 cm.

Toys

Ceramic Marbles

Five clay marbles were recovered (Table 10), four from the unstratified Feature 1 (318-321), and another (441) from Unit B, 90-100 cm. Catalogue entries 318 and 319 are somewhat irregular with visible tool marks; 319 has a crackled glaze.

Baumann states that the observed tool marks are associated with the semi-automatic machine in use from 1905 to 1926 (1970:63). The smooth round marbles, 320 and 321, are typical of the prevailing technology after 1926, when the automatic machine came into use. The irregular brown marble (441) is hand made and dates from the late nineteenth century to the early twentieth century.

Table 10. Ceramic Marbles

<u>Cat.</u>	<u>Diam.</u>	<u>Description</u>
318	2.4	Mottled glaze, very dusky red (2.5YR2.5/2) and pinkish white (7.5YR8/2)
319	2.2	White (N9), with dirty marks
320	2.0	Dirty white (N9)
321	1.7	White with red (5R5/12) and green (5G6/10) stripes
441	1.5	Dark grayish brown (2.5YR4/2)

Other

Parts of a wooden doll (316/317) were recovered from Feature 1; one of the fragments was a hollow leg with depiction of a boot. A metal game marker, 1.7 cm in diameter, came from Unit B, 110-120 cm. One

side read "Spiel Marke" in German, while the obverse bore the image of a cow. A wheel (499) and other parts probably represented a metal toy, also in Unit B, at 120-130 cm. Also related to leisure time activities are the reeds from a harmonica (244) and from a pump organ (717), the former from Feature 1 and the latter in Feature 2.

Metal

Metal artifacts were more abundant here than at sites occupied prior to 1840, such as the Ontiveros Adobe, where metals were distinctly rare. The contrast is particularly apparent in the 683 nails described above in the discussion of the structure. The shift from cut to wire fasteners demonstrated in that assemblage is itself evidence of change and the evolving technology. Brass cartridges also become increasingly common in the later years of the nineteenth century, and - with the nails - are the most abundant metal artifact (Table 11).

As acculturation is occurring even in a household from a conservative tradition, enameled iron pots are seen as replacing, and even outnumbering, the earlier ceramic cooking vessels (cf. cazuela above).

Farming machinery, tack, and hardware are all represented in the catalogue, but mostly in the form of fragments which do not permit ready identification. Not investigated during this study is a two inch cast iron drain pipe projecting from the east wall; this is the only indicator of some drainage or sanitary facility.

The following is not presented as an inventory of all metal objects, but merely a sample of identifiable artifacts recovered. All but no. 586 derive from Feature 1.

216. Box lock, badly deteriorated.

218/219. Parts of a cast iron stove; 218 may be a door. The parts are not from a fancy, molded model, but rather a simple utilitarian item.

221. Telegraph key.

225. Shutter catch, ferrous.

231. Watch chain with fob, brass, originally gold plated.

233. Padlock, iron with brass, "M.W. & CO." on brass cover. Comparable type advertised by Montgomery, Ward in 1895 catalogue.

244. Five brass reeds, four from a harmonica and one from a pump organ.

586. Scythe or sickle "stone," so-called but actually a sharpening device, ferrous. Unit C, 30-40 cm.

901. Stove ventilator, iron with blue enamel (Montgomery Ward 1895: 426).

Table utensils were represented by two knife handles, a knife blade, an unassociated handle, and a three-tined fork, all from Feature 1. From the surface trash scatter at a distance west of the adobe, a plated tablespoon was collected; this was marked "Embassy Silver Plate" and identified as the Bouquet pattern made in 1955 (Hagan 1981:20).

The distribution of cut and round wire nails has been presented earlier as Table 6.

Table 11. Identification of Cartridge Casings

Locus	Size	No.	Description	Date	Reference
<u>Unit A</u>					
60-70	.22	1	HP, rim fired (High Power, Federal Cart.)	1930s ?	Suydam 1977:327
	.22	1	SUPER X, rim fired (Western Cartridge Co.)	1930s ?	Suydam 1977:327
70-80	16 ga	1	Winchester Ranger	1937-1971	Roeder, pers. comm.
	.22	1	U, rim fired	1867 -	
100-110	.22	1	U, rim fired	1867 -	
120-130	.22	1	U, rim fired	1867 -	
150-160	.22	1	U, rim fired	1867 -	
160-170	.38	1	Peters A.C.P., center fired (might be Automatic Colt Pistol)		
<u>Unit B</u>					
50-60	.22	1	R, rim fired		Suydam 1977:327
80-90	.22	1	U, rim fired	1867 -	
90-100	.22	1	U, rim fired	1867 -	
100-110	.22	1	U, rim fired	1867 -	
110-120	.22	3	U, rim fired	1867 -	
	.22	3	XR, rim fired Sears Roebuck, Xtra Range)	1930s ?	Suydam 1977:328
120-130	.22	1	U, rim fired	1867 -	
	.22	1	SUPER X, rim fired (Western Cart. Co.)	1930s ?	
<u>Unit C</u>					
0-10	.22	1	U HI SPEED	post WW II	Logan 1948:191
	.22	1	SUPER X (Western Cartridge Co.)	1930s ?	
	.22	1	H, rim fired	1866 - ?	
	.22	1	U, rim fired	1867 -	
	+.50	1	Center fired	1860s	
10-20	.22	1	U HI SPEED, rim fired	post WW II	Logan 1948:191
	+.50	2	Center fired	1860s	
30-40	12 ga	1	REM-UMC NITRO CLUB No. 12	1910-1962	Suydam 1977
50-60	.22	1	U HI SPEED, rim fired	post WW II	Logan 1948:191
<u>Feature 1</u>					
	.25?	1	WRA XXX, center fired		
	.22	8	IPI M/W 5U, rim fired (foreign, no data)		
<u>Feature 3, shovel test</u>					
	.22	1	U HI SPEED, rim fired	post WW II	Logan 1948:191
<u>Auger test</u>					
S115/W55	.22	1	U, rim fired	1867 -	
<u>Trench 1</u>					
	.22	1	SUPER X, rim fired (Western Cart. Co.)	1930s ?	
	.25	1	WESTERN XX, center fired	1930s ?	

Headstamps of makers:

U - Union Metallic Cartridge Co. and successors, 1967 to present
 REM-UMC - Remington-Union Metallic Cartridge Co., 1910 and 1962
 P - Peters Cartridge Co.
 R - Revelation (Western Tire & Auto) or Robin Hood Ammunition Co.
 WRA and H - Winchester Repeating Arms Co.

References for this table:

H. C. Logan, 1948, Cartridges, Standard Press, Hunting, West Virginia
 Roeder, M. A. Unpublished data
 C. Y. Suydam, 1977, U. S. Cartridges and Their Handguns, Beinfeld, North Hollywood, California.

6. FAUNAL REMAINS

Shell

The very small amount of shell recovered (Table 12) and its appearance seem to indicate that most of it may be associated with the aboriginal occupation of the site. The fragments are all deeply weathered. The bulk of the sample represents surface collections, although the bean clams come from the lowest levels of Unit B. The predominant species is Pismo clam.

Edible shellfish continued as a common food during the Pastoral era, and the molluscan remains from Feature 1 may have originated during the historic occupation. A greater quantity and variety of shell contemporary with the adobe may be found when refuse disposal areas of the early period are located.

Table 12
Occurrence of Shell

Species	Locus	Cat.	Wt.	Reference
<i>Protothaca staminea</i>				
Common littleneck clam	Feature 1	324	7.9	McLean 1978:79
<i>Tivela stultorum</i>	Surface	847	43.5	McLean 1978:77
Pismo clam	Feature 3	795	26.3	
<i>Pecten</i> or <i>Argopecten</i> sp.				
Scallops	Feature 1	322	4.7	McLean 1978:69
<i>Chione undatella</i>				
Wavy chione	Feature 1	323	3.5	McLean 1978:78
<i>Donax gouldii</i>	Unit B			
Bean clam	110-120	474	0.2	McLean 1978:86
	120-130	487	1.0	
Total			87.1 gr	

Bone

Although the total recovery of bone was not great - 3835.1 g, the sample is informative in several respects and representative of all four units and the two major trash disposal features (Table 13). The collection has not been identified to species; sheep and cattle remains

predominate, apparently in that order, with a minor presence of bird and rodent bones, the latter probably intrusive.

Unit C, on the south side of the adobe, contained both the largest bones and by far the greatest quantity. The articulated lower spine and femur found at 30-40 cm, just above the brea layer, was a bovine butchered in the Californio manner comparable to the elements recovered at the earlier Ontiveros adobe (Gust 1982:101-144). Although the faunal remains from this unit comprised more than one-third of the total collection, none of the bone from Unit C was sawed. In all other constituents as well, e.g., the ceramics, this area yielded the earliest cultural materials.

The shift from cattle to sheep as the principal livestock on the ranch occurred about 1870 (TCR 1983:106). This change is reflected in Feature 1, where the artifacts represent the last quarter of the nineteenth century; sheep bones predominate in this sample. The cattle bones which are present in Feature 1 are mostly sawed and probably purchased from a local butcher, whereas the sheep bones are butchered in the Californio manner, most likely on the ranch.

Bird bones were recovered, but their light weight and poor preservation contribute to a misleading impression. The 26.3 g does not truly represent the quantity of both domestic and game birds which were probably consumed. No fish bone or otoliths were recovered.

Although needing additional analysis, the bone sample illustrates the persistence of Californio butchering; on preliminary inspection, only 7.2% of the bones appear to be sawed. The distribution of species and cut marks reinforces the conclusions drawn from other evidence about the pattern of early refuse disposal south of the adobe and the disposition of 1870-1900 refuse in prepared facilities on the west side. It is still speculative whether either area is a clue to the location of the butchering and cooking activities.

Table 13. Occurrence of Animal Bones

Location	California				Sub		Remarks
	Butchering	Sawed	Bird	Other	Total	Total	
Feature 1	1,312.8	108.5	-	-		1,421.3	
Feature 2	40.8	31.7	-	-		72.5	
Unit A							
80-90	2.8	-	-	-	2.8		
90-100	-	15.5	8.0	0	23.5		
100-110	2.1	11.5	6.5	-	20.1		
110-120	10.4	-	-	-	10.4		
120-130	14.2	-	-	-	14.2		
150-160	3.8	-	-	-	3.8		
160-170	-	-	-	4.2	4.2		Rodent skull
Sub total	33.3	27.0	14.5	4.2		79.0	
Unit B							
40-50	-	-	0.9		0.9		
50-60	-	9.2	2.0	-	11.2		
60-70	-	2.5	0.9	-	3.4		
70-80	8.8	-	-	-	8.8		
80-90	-	-	-	9.5	9.5		Small mammal
90-100	32.8	-	-	1.2	34.0		Small rodent jaw
100-110	20.5	-	-	-	20.5		
110-120	7.5	-	-	-	7.5		
120-130	207.2	-	-	-	207.2		Burned
130-140	340.2	-	-	-	340.2		Burned
Sub total	617.0	11.7	3.8	10.7		643.2	
Unit C							
0-10	126.3	-	-	-	126.3		
10-20	26.7	-	-	-	26.7		
20-30	21.3	-	-	-	21.3		
30-40	1,000.2	-	-	-	1,000.2		Articulated lower spine and femur, bovine
50-60	52.0	-	-	-	52.0		
60-70	96.9	-	0.3	-	97.2		
70-80	17.1	-	0.2	-	17.3		
80-90	36.0	-	-	-	36.0		
90-100	1.0	-	-	-	1.0		
120-130	4.3	-	-	-	4.3		
Sub total	1,381.8	-	0.5	-		1,382.3	

Table 13 (Continued)

Location	California Butchering	Sawed	Bird	Other	Sub Total	Total	Remarks
Unit D							
30-40	8.0	-	-	-	8.0		
40-50	0.3	29.1	1.5	-	30.9		
80-90	-	30.4	-	-	30.4		
100-110	3.7	-	0.8	-	4.5		
110-120	-	-	-	0.4	0.4		
120-130	-	-	-	1.4	1.4		
130-140	-	-	0.8	0.1	0.9		
140-150	<u>13.0</u>	<u>-</u>	<u>-</u>	<u>-</u>	13.0		
Sub total	25.0	59.5	3.1	1.9		89.5	
Shovel test 1	46.3	37.8	1.5	-	85.6		
Shovel test 2	58.8	-	0.4	-	59.2		
Surface	<u>-</u>	<u>-</u>	<u>2.5</u>	<u>-</u>	2.5		Sternum
Sub total	<u>105.1</u>	<u>37.8</u>	<u>4.4</u>	<u>-</u>		<u>147.3</u>	
Total	3,515.8	276.2	26.3	16.8		3,835.1	
%	91.7%	7.2%	0.7%	0.4%		100.0%	

7. HISTORY OF THE ADOBE

Before describing the structural remains either observed or exposed by this investigation, it would be useful to review the facts and details which can be documented. The following time line was prepared from the historical record presently available (TCR 1983) and a sequence of photographs.

- 1840. Adobe built by Juan Bandini (TCR 1983:47).
- 1854. Structure described as having a roof of cane and pitch (TCR 1983:47-48).
- 1895-1897. "Repairs were made to the adobe walls at least once" (TCR 1983:149).
- 1915. Photograph shows adobe with two floors, roof not visible. Wooden porch on south side, raised above grade on wood sill and blocks. Posts of porch chamfered. All windows barred; upper story windows appear to be double hung, 12-light. Walls were plastered and/or white washed (Fear photo).
- 1920. Porches on southeast corner shown. Door at east end of south facade had pediment framing to match windows, white ceramic knob, and six glass panes, three over three. Sill at level of the porch flooring. Wall plaster on first floor has disappeared since 1915 (Gould scrapbook).
- 1926. First clear view of roof: hipped roof over eastern two-thirds of structure, with shed roof over western third. South porch is gone. Fencing and outbuilding visible, detached from NE corner (Gould scrapbook).
- 1930. Almost all plaster gone from south side. East porch is still standing, with an attached shed or room extending from the NE corner. Some window pane still present (Brennen photograph).
- 1932. All roofing seems to be still intact. A small room with shed roof is shown at the NE corner, apparently made of adobe; milk cans visible. At west end of the north facade, wood framed

enclosure with one window. East porch intact; north porch enclosed. Windmill at NW corner. Corrals attached to north side, and farm equipment outside corral. Window glass gone. Much plaster still intact on upper story.

1932-1935. Shed roof intact at west end with one dormer window which has horizontal siding. Picture dated ca. 1932 shows plaster totally intact on west wall, a major crack developed on the south wall near the west corner, and a suggestion of a lug sill on the south wall, second story, which may represent a sealed window which would be directly above the westernmost window on the ground floor. Almost all plaster gone from the south side, except near the eaves. In photo dated 1932-1935, west wall has lost almost all plaster, except for extension at north end. Shed roof deteriorating; rafters exposed. Windmill still standing (Gould scrapbook).

ca. 1935. HABS drawings provide a wealth of detail: closed openings on the east and west walls of first floor; crack on north wall where portion under hipped roof joins portion under shed roof; north and south walls under shed roof slope at approximately 45° from edge of hipped roof to eaves; wing wall at northeast corner is level on top, while wall extension at southwest corner is sloped under shed roof. The roof rafters of the north porch cover the projecting wing wall at the west end, but only abut the projecting wall on the east end; this roof was shingled. The plan of the second floor shows a significant difference between the two interior partition walls; the east interior wall is 2.0 ft (0.6 m) thick and rises to the roof, but the west inside wall has apparently ended at the level of the first floor ceiling. The drawing shows the floor boards covering this wall, still 3.5 ft thick, in line with the edge of the hipped roof. As a result, the upper floor is depicted as having only two rooms, one large chamber at the west end, reached by the steps attached to the northwest corner of the center room on the first floor, and a small room at the east end which does not connect to the former. The drawing shows an "opening"

2'4" by 5'10" (0.7 x 1.8 m) in the floor; presumably this would afford the only access, through a trap door or ladder. Other details in the elevations record that the porch rafters joined the walls above the level of the second floor joists, the presence of H hinges, "china" door knob, and various measurements of framing and trim. Notes describe a "covered corridor with brick paved flooring full length" on the south side (the floor remaining but buried), a wood base and wainscot in the east and center rooms of the first floor and the larger room on the second floor, and gray paint on the interior wood trim. The flooring, still present in the lower east room, was tongue and groove, laid over sleepers placed directly on the soil. All sash and doors were already missing.

- 1935. In photographs, the east porch, north porch enclosure, and corrals are gone; a round beam is seen protruding near the top of the northeast wing wall (Olmstead photo).
- 1939. Windmill and pumphouse still intact. Shed roof is gone. Wall extension at northwest corner standing and plastered. East interior wall rises to roof line; no evidence for a west partition wall on the second floor. North porch and roof framing still present (Gould scrapbook).
- 1940. North and east walls standing to full two story height; about half of hipped roof framing intact. East wing wall at northeast corner and east end of porch framing standing; porch roof collapsing at west end. South and west walls deteriorating (Stephenson photos; note on back says adobe faced east).
- 1950. All roofing has collapsed. At least one doorway with jambs and lintel intact; lintel notched to receive jamb. With reference to Ms. Brennen, entry appears relatively low. Adobe melt or other fill accumulating in interior (Brennen photos).
- 1961. East wall still two stories high. Portion of wing wall at northeast corner and east end of north wall standing at least to top of first story. Niche or defect visible on interior of east wall, high on second floor.

8. RESEARCH IMPLICATIONS

Even before the excavations were completed, the investigators had developed a number of potential research directions. Some were in the nature of challenges to various uncritical assumptions about the building which had been transmitted and repeated over the years, and some were based upon field experience at other sites, visits to other adobes, and reference to architectural literature. Both sets of problems were reinforced by study of the HABS drawings and old photographs provided by TCR and the results of the excavation. As a means of organizing a complex discussion, a number of specific questions will be set forth and addressed as far as information on hand permits, and then a set of alternative scenarios will be presented and evaluated. Recommendations of steps and methods to gather the data needed for more definitive answers are offered in the chapter to follow.

1. Was the Bandini-Cota Adobe originally built as a two-story dwelling with a flat brea roof? There is evidence that Bandini did install a brea roof (TCR 1983:47-48), but no document has been offered that describes a second floor in the early years. It would have been exceptionally difficult to apply and maintain such a roof on a second story, and no counterparts to a two-story, brea roofed building are presently known (Girvigian, personal communication 1983). A brief review of the literature makes clear that buildings with two stories - and any kind of roof - were distinctly rare in 1840; many historic adobes described as having two floors were actually so enlarged well after the initial construction. Juan Bandini's home in San Diego, built ca. 1827-1829, originally had a single floor; the second was added in the 1860s (Giffen 1955:17-20). The upper story of General Andrés Pico's home, built in the 1830s, was added by his son Romulo after 1874 (Giffen 1955:16). The same was true for the houses of William G. Dana, William Workman, Pio Pico, and Juan Temple (Giffen 1955, *passim*). Even the claim that Yorba's nearby "San Antonio" had two stories and a brea roof (TCR 1983:79) has been called an exaggeration (Kirker 1973:13). The Vicente Lugo Adobe, built around 1840 in Los

Angeles Plaza, was one of only three two-story buildings in the southern pueblo and its vicinity as late as 1852; it may have had two stories and a flat brea roof (Kirker 1973:20). However, there are questions about its dates and history, and pictures clearly show it with a pitched roof, dormer windows, and Monterey style balconies by 1872 (Los Angeles City and County Directory 1872:14). If the Bandini-Cota Adobe was originally built with two stories in 1841, it would be a very rare example for its time in all of California. If it also had a brea roof over the second floor, it is possibly unique. On the other hand, it was not uncommon for houses begun with one floor to have later added an upper story with rafters and a hipped roof when millwork and shingles became available during the American period.

2. Which way did the adobe face ? It has also been assumed that the front of the residence faced the north, or the broad flat plain which would have afforded the easiest approach. However, more arguments can be made that the major facade and entry faced to the south. The south side has two doorways and two windows, whereas the north side has a single opening. The south, or bluff, side faces the view. Various additions, which may be service or cooking rooms, and the well were built on the north side, as were the later corrals. The posts supporting the north porch roof were very plain, compared to those on the south side which had capitals and chamfered millwork; HABS reported that the south porch had a brick floor. By 1932, the north porch had been enclosed with board and batten framing, presumably to create more interior space. A note on the 1940 Stephenson photo says that the adobe "fronted" east, but this is not seriously considered; other photos and the HABS drawing indicate only a window on the east wall, and such an approach would enter one of the two smaller rooms, not the largest one in the center. Pending further investigation, it seems probable that the dwelling faced the south, and that the major entry was the door into the center room. Even if the road approached from the north, such an orientation would not be unusual; Del Valle's

adobe, "Camulos," stands some 300 feet from the traveled road and also "turns its back scornfully on passers-by" (Giffen 1955:102). The oblique siting with the long axis approximately SWW-NEE is typical of Mexican adobes oriented to admit the maximum light on all sides at some time of the day (Girvigian, personal communication 1983).

3. What was the function of the various rooms ? At this time, there is almost no evidence to support anything beyond speculation. From analogy, the large central room on the lower floor, entered by front and rear doors and communicating with both side rooms, would be the major room, and the larger upstairs room would be for sleeping. Which of the smaller rooms was used as a kitchen may be solved by excavation; it is tempting to suggest that cooking was originally done outdoors at the northwest corner where the activities would have been enclosed by the stub wall suggesting a courtyard, originally roofed with a ramada and later by the lean-to addition. The filled-in opening in the western room (Room 3) may have resulted from remodeling when meal preparation was moved indoors.

The small room upstairs raises questions which may never be answered. As drawn by HABS, it has no access to either the larger room or the lower floor. There is no suggestion that it ever had a doorway opening to an exterior stairway or porch - or that either ever existed. Yet, if it was originally built as a "strongroom" for secure storage, it would probably not have had two windows. Access was apparently by way of a ladder through the HABS-indicated opening in the floor; this might support an alternative that the kitchen or servants' area was in the lower east room. TCR has reported that the lower east room was used in the 1920s as a cantina with a bar (1983, ms.), and the room above would have provided secure storage for supplies. The schematic floor plan drawn by Miss Rubidoux from memory (TCR 1983:Figure 9) cannot be correlated with reference to known features such as the pump, two major porches, or arrangement of the rooms. However, if one accepts her location of the pump, milk house, and "back porch," this would be evidence that the house faced south and the kitchen was in the northwest corner. The "100 foot long sala" (TCR 1983:29) is an exaggeration

since the maximum interior dimension - disregarding the fact that the space was partitioned - was 55' 4" and the largest single room was 26' 4" (HABS). If the reference meant entertaining on the roofed porches, there would be 68' available on the south and 63' within the stub walls of the north porch.

4. When were the major alterations made? There is no historical evidence available at this time other than the purchase of plastering material and nails in 1897 (TCR 1983, ms.). Clearly, the remodeling of the roof occurred prior to any of the existing photographs or personal recollections. Various observations suggest that the brea roof may have been replaced early, perhaps in the mid nineteenth century between 1850, when the Cotas moved into the adobe, and 1870, when the family was in deepening financial trouble; it may be only coincidence that two laborers were resident in the household in 1860 (TCR 1983: 98, 129-130). This period would be contemporary with the addition of a second story on many other southern California adobes, and certain of the architectural details are typical of these years. The Greek Revival pediments over windows and doors are characteristic of the period after 1850, and the millwork of the south porch posts represents another classic American-European influence not found in the Mexican Colonial Rancho period of 1822-1846. The base and capital design of the posts is pre-Victorian, but certainly not Mexican Rancho; the shafts are too light to have ever supported a tile roof, but too heavy for the 1870s. Best estimate for the construction of the porch (or replacement of the original posts) and addition of the window trim would be the 1850s (Girvigian, personal communication 1983). It is interesting to note that the posts of the north porch appear very plain in the 1940 Stephenson photograph, and the one at the east end seems particularly crude, even hand hewn.

The association of the discarded brea with the Chinese porcelain, early English earthenware types, Southern California Brown Ware, and bone butchered in the California manner, and the superimposition of the retaining wall (Feature 3) over these remains supports the proposition that the roof was changed fairly soon after construction. By the 1850s,

the influences of the Larkin house built in Monterey ca. 1837 would have reached Los Angeles, and lumber, shingles, and the various craftsmen were all available in the Los Angeles basin.

Aside from the reroofing, other alterations and maintenance may have occurred more than once. TCR describes a tar paper and metal roof (1983, ms.), but this probably reflects only the final repairs since there clearly was a shingle roof at one time. The dormer window was definitely not original, and is regarded as post Civil War, a Yankee feature along with the "salt-box" shed roof which contained it (Girvigian, personal communication 1983). Other changes not yet understood are the soil pipe visible below the east wall, at least two filled openings, one on the west wall and another in the east stub wall on the north side, and a number of changes and additions to the north side. Another assumption which may be questioned is that the porches were necessarily contemporary with the first construction. The passages between the first floor rooms obviated the need for a "corredor" to afford access, and in fact there is no door to the outside in the west room. The "corredor" is typical of the 1850s and may have been added during other remodeling (Girvigian, personal communication 1983).

5. Where did the food preparation take place? There is no evidence at present, and the following discussion is speculation based upon analogy. Well into the 1850s, the kitchen activities took place outdoors, often in facilities built against a courtyard wall and sheltered by a ramada. A typical improvement at a later time was often a lean-to or other enclosure; the HABS plan suggests a former foundation and wall at the northwest corner where photographs show an addition under a salt-box shed roof; this would be close to the well. By 1932, the north porch was apparently entirely enclosed with board and batten siding, and this may represent the evolution from an outdoor service area to fully enclosed space to expand the interior. If archaeological efforts support this proposition, it would also tend to confirm that the north side was the back of the structure. The solitary opening on the north wall was the door into the main room, which would have been for

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THE BANDINI-COTA ADOBE PRADO DAM RIVERSIDE COUNTY
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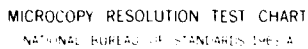
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the service of cooked food. The total absence of windows might be for the purpose of avoiding smoke or odors inside the house. Since there has been only limited testing, the discovery of Californio butchered bone on the south side is not regarded as evidence for the location of the kitchen, since the slope would have been a natural area for the discard of refuse, and no work has yet been done along or outside the north facade.

6. Did the adobe originally have glass windows and a brick floor on the south porch? The use of glass in California was beginning in the last decade of Mexican rule, although distinctly rare (Kirker 1973: 11-12); the more common practise in the 1840s was to secure wooden poles or iron bars over an unglazed opening. Where used, the material was most apt to be sheet or cylinder glass (Roenke 1978:40). The photographs presently available are sufficiently oblique that not all the window muntins can be counted, but it appears that the windows were double sash, six-over-six panes, a style popular "in finer dwellings" ca. 1840 (Roenke 1968:33). Thus, both the glass and the pane style would have been available at the time of construction, although the glazed windows would have been a rare occurrence for the date. Much fragmented glass was recovered from the test excavation, and with all due allowances for the variability of early panes, analysis of thickness and chemical composition may help to resolve questions about the installation. The wire cut bricks recovered during excavation are not as old as 1840, nor did brick production in Los Angeles expand until the late 1850s. So far, none has been found in situ; all have been scattered and the locations do not suggest how or where they were used. The most complete examples came from refuse deposited in Feature 1, perhaps during some phase of remodeling, and none was found in Unit B which might have been the area of the brick floor of the south porch.

7. What typical Mexican Colonial traits were present in the Bandini-Cota Adobe? The siting of the house on elevated ground was a common practise to protect the mud walls from water erosion; such a location

was usually open and treeless to maximize sunlight, provide an optimum view of the vicinity, and protect against stock thievery or Indian attack (Kirker 1973:15).

An old adobe always stands on ground that slopes away from the house, & the earth within a short space of the walls is swept and trampled to a water-shedding hardness...No planting is ever done directly against the wall of a house ...the water at the roots would moisten and soften the bottom of the walls (Lumpkins 1972:28).

The use of adobe was itself the major attribute of its period, together with the brea roof, however long it lasted. The oblique orientation relative to the sun or compass directions, linear floor plan, and absence of a chimney are other characteristics. The construction of a second story with walls flush on the exterior but reduced in thickness on the inside is also typical (Girvigian, personal communication 1983). The stub walls on the north side might represent a courtyard or partial enclosure for the patio where kitchen work was done. The windows appear narrow and limited in number, particularly on the north side and in the upper story. Lack of an indoor fireplace and chimney is also typical of the rancho dwellings.

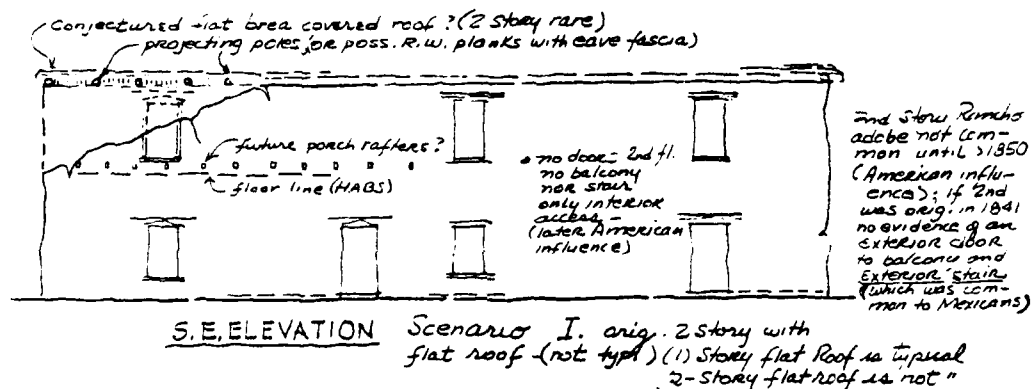
8. What influences of Euro-American architecture are present ? The influences of Yankee style, Anglo construction practises, and the growing industry in building materials can be seen in such details as the dormer window, interior stairway, sash windows, Greek Revival pediments, the hipped roof, and millwork. The chamfered porch posts were also installed at the nearby Yorba-Slaughter Adobe built ca. 1850 (Giffen 1955:98), although those lack the base and capital seen in photographs of the Bandini-Cota Adobe. The postulated enclosure of the kitchen, use of shingles, and installation of a drain pipe are all obvious, later developments representing a different tradition.

Scenarios

A set of scenarios is offered which is somewhat more than pure speculation, since each is based upon some facts or observations, but still less than a fully developed hypothesis since data are still fragmentary. Some aspects of each may be tested archaeologically, some may be further evaluated from historical documents and additional photos or drawings, and some problems may be beyond resolution.

Scenario 1

Previous reports have accepted that the Bandini-Cota Adobe was built as a brea roofed, two story dwelling, which would have appeared as suggested below.



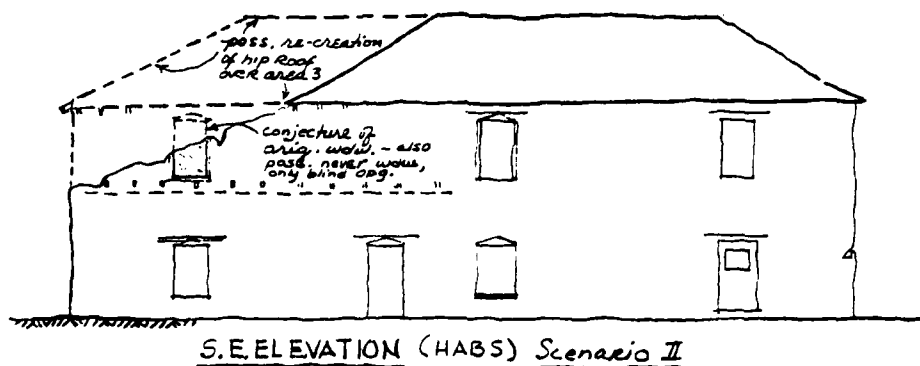
(Raymond Girvigian, FAIA)

The depiction implies certain assumptions: that the upper floor was reached by an interior stairway, rather than the exterior stairway with an upper balcony and door, and that brea was applied over poles parallel to the short axis of the structure, or possibly redwood planks, as at the William Workman Adobe of 1844. Other than legend, the best evidence for this proposition is contained in two Gould photographs ca. 1932-1935; at the west end of the south facade, there is a suggestion of remains of a lug sill and a filled-in window in the second story which would be directly above the westernmost window of the first floor. As indicated in the sketch above, the later roof line cuts

through this area, which would account for the infilling of the opening and its replacement by the dormer on the west wall. There is both physical and documentary evidence for the use of brea, but no historical accounts yet confirm that it was applied to an upper floor.

Scenario II

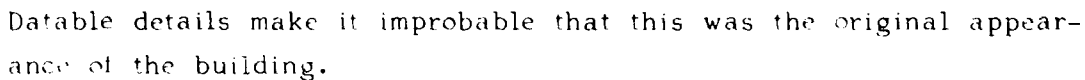
It is possible that after the brea was removed, the next stage in the evolution was a full hip roof which covered the entire perimeter of the walls.



(Raymond Girvigian, FAIA)

This alternative would also provide an explanation for the enigmatic upstairs western window. In this version, as in Scenario I, there would have been full headroom in the second story at one time. The prototype for the silhouette, the Thomas Larkin house in Monterey, already existed by 1840, although the Bandini-Cota Adobe apparently never had a second story balcony.

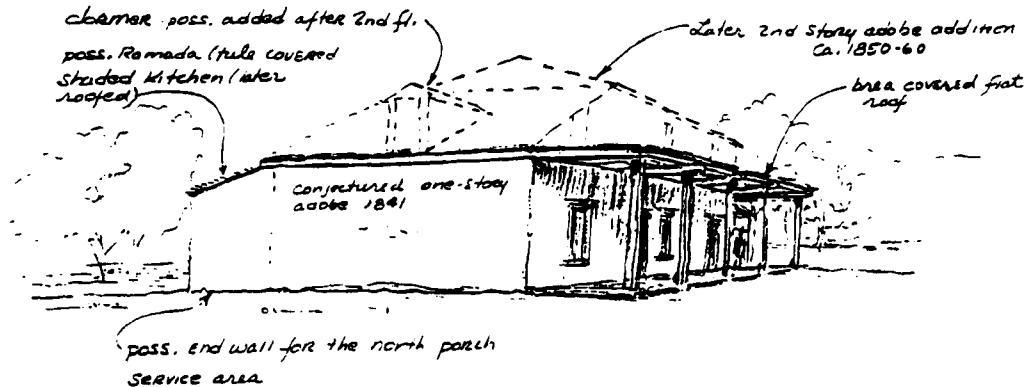
The sketch is intended to represent the adobe as it apparently did look after major remodeling, perhaps in the 1850s. By this time the various elements present in the historical photographs are present: the combination of hip and shed rooflines, south and east porches, dormer window, door and window pediments, millwork, and rafters which could have supported only shingles. In Girvigian's opinion, "this design is too sophisticated" for a California adobe built before 1846 or thereafter.



The height and pitch of the rafters over the south porch are functions of the necessity to provide headroom and also to admit maximum light into the interior. Clearance at the edge of the porch was 7'6", and the height at the point of attachment to the adobe wall is calculated to have been from 11'6" to about 12' (Girvagian, personal communication 1983).

Scenario IV

Finally, Scenario IV offers an informed conjecture of what the adobe might have looked like if it was first constructed as a one story building in 1840.



*Conjectured view from West ca. 1841
(see also Pueblo photos and sketches and
Rancho San Pedro (Dominguez) as late as ca. 1883*

(Raymond Girvigian, FAIA)

In all respects, this would represent a typical dwelling of the period. The major porch faced the view toward the south, while the extended stub wall on the north sheltered an outdoor cooking area. All subsequent changes, indicated by the dashed lines, would be possible from this basic structure. The suggestion that the two stories were built at different times, or at least by different techniques, is given some weight by the observation that the 1920 and 1932 photos reveal a slurry coat of adobe under the plaster on the first story, while no such layer can be detected on the upper story; other, better, or enhanced prints may also confirm that the second story bricks were of a different size.

Discussion

The reconstruction of the architectural history and associated technology of the Bandini-Cota Adobe will require precise knowledge of:

1. The construction stages and techniques employed by its builders in both the initial construction and subsequent remodeling; and
2. The maintenance events and methods of the inhabitants between the major events of alteration.

Such knowledge is acquired from historical documentation of specific architectural events, the examination and analysis of surviving archaeological remains, and comparative research, since it is axiomatic that the availability and limitations of materials affect the design and methods of a building.

These lines of evidence, in the preliminary phases of investigation, may be complementary, occasionally overlapping, and perhaps seemingly contradictory. Contemporary recorders of history may omit details which were commonplace or uninteresting to them, but which would be a revelation today. For such events and practises, it may be only the archaeological remains which preserve precise evidence of activities which have modified the natural and cultural landscape. Much of this evidence will reflect idiosyncratic behavior not likely to be found in the historical record, yet such knowledge - for specific cultural groups and for relatively brief periods of time - will contribute to the formulations of significant cultural behavior.

Two lines of archaeological inquiry are indicated: the reconstruction of historical sequences, and the reconstruction of cultural practises. The former requires an initial development of an architectural event sequence which is explicit for the time, place, and style of constructions, modifications, and repairs. As this is independently evaluated by the historical record, archaeological observation, and architectural consultation, a refined sequence should be drafted to account for all new evidence, and this process repeated at each phase until the potential for new data is exhausted. It is emphasized that without understanding and differentiating the sequential historical changes in

detail, it is impossible to address any single, specific period within the sequence through examination of the extant archaeological remains. For example, one must be able to identify the later modifications in order to recognize the nature of the initial construction of 1840. Without such distinction, archaeological remains actually representing later cultural changes could easily be ascribed to earlier persons, practises, or periods.

Concurrent with the development and refinement of the historical sequences, the techniques actually employed at each stage of construction activity must also be examined. To proceed simply on the assumption that a postulated event employed a "known method" of construction which may, itself, never have been tested or documented, may seriously obscure the evidence being sought or bias the historical record. Taking the customary generalizations about the manufacture of adobe bricks for granted may be defensible at other sites where no evidence survives, but the opportunity is present at the Bandini-Cota Adobe to acquire hard evidence from the physical remains to examine such questions as:

1. Were special clays selected, or did the builders use the on-site silty clays ?
2. Was grout or temper added ? What, and were the additives and proportions consistent through time ?
3. Were the bricks formed freehand or in molds, and were the shapes and sizes uniform ? This question is significant for function, as well as technology, e.g., was the size of bricks related to height above the foundation ?
4. What were the actual techniques of wall construction; were scaffolds used; what was the sequence of foundation and wall construction, etc. ?
5. How was mortar made; was it functionally different from the brick fabric; what determined the function and success of relative thickness of the applications ?
6. Were discernible mistakes made during construction, and how were these remedied ?

7. How did the more recent construction practises utilized in remodeling and maintenance differ from the earliest techniques ?

For each stage of construction, alteration, and repair, answers to these and related questions would permit the investigator to reconstruct a sequence of human activity which conforms to pragmatic data (rather than assumptions) and interprets the step-by-step procedures employed to accomplish the events. Such reconstructions of human activities become our working knowledge of historical cultural processes and their variations, and contribute to the broader understanding of cultural behavior and its change through time. The Bandini-Cota Adobe is unusual in having historical, photographic, architectural, and physical remains; at the same time, the very complexity of the evidence requires exhaustive models with the flexibility and freedom to examine and evaluate the constructs as the data accrue.

This preliminary test of the extant remains suggests that adequate information is preserved to address significant issues related to the construction and maintenance of the building. Lacking comparable data from other adobes of the initial construction period, much of the information will come from expanded excavations of the walls, rooms, and exterior areas, together with testing of the surrounding natural environment for control samples. The effort should be accompanied by analytical studies of soil, bricks, mortar, wall coatings, floor debris, and natural soils, as set forth in the Recommendations which follow. In order to isolate the 1840 building, it is necessary to define the subsequent remodeling and maintenance events of the later nineteenth and early twentieth centuries. Concurrent research, in addition to site-specific references, should exhaust both published and manuscript literature pertinent to adobe construction in Spain and Hispanic America. Ethnographic analogies to modern adobe brickmaking in underdeveloped areas may further illuminate the methods utilized and suggest models and processes which can be tested in experimentation on the site.

9. RECOMMENDATIONS

The preliminary studies accomplished during Phases 1 and 2 have led to a few conclusions, raised many new questions, and have served to define a number of specific directions for continued research. Some vital questions which remain to be answered, the kinds of data needed to address them, and the methods to provide the requisite information are summarized in the following set of recommendations.

1. Historic American Buildings Survey (HABS). The 50th anniversary of this invaluable recording and archival agency will be observed in November, 1983, and the Department of the Interior is actively soliciting demonstration projects. The work conducted at the Bandini-Cota Adobe so far, in demonstrating the value of HABS documentation, would be of great interest to the agency and might elicit recognition and support for the research effort.
2. Measurements. The ground-level dimensions claimed for the building have varied greatly over the years, but are now under good control. However, no hard data have been recorded which measure the rate of deterioration of the walls, information which would be valuable for other projects as well as this one. Other than extrapolating from the historic photo collection, the only details provided are that in 1961, all remnants other than the east wall stood less than six feet (1.8 m) and by 1971, all walls were less than five feet high (1.5 m). The apparent height is conditioned by the talus of adobe melt at ground level, which will be increasing, and the rate of decay is affected by variable rainfall but still unknown. A method is suggested whereby comparable data can be recorded to provide accurate profiles and some indication of deterioration. Galvanized spikes should be driven into the base of each wall remnant, so that a measurement of height can be made at the same place on an annual basis. Height should be recorded from this marker to a level held on top of the wall.
3. Preservation. A number of steps can be taken to enhance conservation of the existing remains. The two most obvious threats to preservation are rainfall from above or rising waters of possible flood from below. A simple canopy like the one erected over Casa Grande would

appreciably slow the rate of decay. A coffer or other barrier on the south side would guard against the potential of inundation. Vegetation should be kept away from the sides of the building, as well as from growing on the walls. If, in fact, the Corps has conceded that the building will ultimately be lost, some experimentation with various methods of adobe preservation is recommended. Spraying of fixatives has been tried elsewhere with mixed results; some of the preparations may bond with the adobe, but unless the walls are capped, moisture may enter from the top causing sloughing of the new surface. Consultation with the National Park Service, National Trust for Historic Preservation, and other agencies and consultants may elicit ideas and methods which can be tried on the remaining walls, to the benefit of all adobes.

4. Soil science. Consultant studies in physical geography geomorphology are necessary to interpret the complex depositional stratigraphy of the site and underlying formations. This research will assist in reconstructing the original surface level, contour of the south slope, identity of the clays used in making the bricks and ceramics, and in assessing the interpretation of filling behind the retaining wall.

5. Analysis of other collections from the site. Materials which have been removed from the site should be examined to fill certain data gaps. For example, the approximately 51 whole bottles collected from Feature 1 have limited the conclusions which can be drawn from this dated assemblage. If the "China with a tea-leaf pattern" observed by UCR in 1975 (Hall 1975:III-3) was indeed an example of Chinese export ware of the Tobacco Leaf pattern, which originated about 1780, it is obviously important to confirm the identification and ascertain the location where this and the other "early 19th Century" ceramics were found. Artifacts are known to be curated at the Rubidoux Nature Center, University of California, Riverside, and the Riverside Municipal Museum, and there may be other repositories. These collections should be examined and, ideally, accessioned at a single location.

6. Technical studies. A number of specialized analytical studies, beyond the scope of this investigation, are needed to answer questions about the materials already recovered and others which may be anticipated.

- a. Neutron activation analysis of the Southern California Brown Ware would reveal if any of the ware types was made at the site, and facilitate comparison with wares from the Ontiveros Adobe and El Pueblo de Los Angeles which have already been studied by this method. Similar analysis of the Chinese porcelains would help to define the province of origin, and contribute to the chronology by reference to known trade patterns.
- b. Experimental XRF studies of the window pane glass and measurements of thickness would contribute data useful in chronological and technological studies of the young industry and help to establish when glass windows were installed at the Bandini-Cota Adobe.
- c. Recovered samples of wood should be identified to determine if redwood or local species were used in construction.
- d. Chemical and physical analyses of the plaster should determine the source of the lime mortar and technique of production.
- e. Studies of the brea might indicate the formation from which it originated, and possibly a more specific source.

7. Faunal analysis. A specialist should examine the collection, not only to identify the species and age of animals, but to analyze the butchering practises represented; these data provide insights into food preferences, preparation, availability, and self-sufficiency.

8. Focused research. Additional archival research, preferably in primary sources, is needed to address specific questions related to archaeology. Some of the data gaps are: contemporary reports or descriptions of the adobe's original appearance (one story or two?); when the brea roof was replaced; the source and quantities of building materials purchased at various times; sources and dates for acquisition

of glass, bricks, farm machinery, and other capital investments, etc. Some of this information may be found in court and mercantile records, or legal documents at times of transfer, court actions, or probate. An effort should be made to locate additional photographs, paintings, or drawings. The HABS file does include four photographs showing each elevation; these were ordered by this investigation and are included in the appendix. Southwest Museum holds both photos and paintings, and other sources which should be checked include the California Historical Society, Huntington Museum, Title Insurance Collection, Los Angeles Public Library, and other archives. Since the data to be sought are relevant primarily to the archaeological effort and interpretation, it is recommended that the research be conducted by an historical archaeologist.

The necessity that the researcher be familiar with the site is emphasized by the confusion which has occurred between the Jurupa and Rincon ranchos. It is possible that some of the eyewitness accounts may refer to other adobes, and at least one representation said to be "the old Jurupa ranch house" (Rush 1965:33) may well depict the Bandini-Cota Adobe instead.

9. Comparative research. Two research areas, particularly, need a broader frame of reference: ceramics and architecture. The Southern California Brown Ware is an extremely diverse collection and presumably mixed in cultural and geographical origin. Reference collections at Riverside, San Bernardino, the Malki Museum, Imperial Valley Museum, and in San Diego should be consulted for comparative studies, and it is likely that the collections at University of California, Berkeley, and the State Museum at Sacramento would also be useful. In consultation with an historical architect, information should also be gathered about local and regional adobes in order to provide a broader frame of reference for pursuing this investigation, evaluating the tentative conclusions drawn, and interpreting the results of this and future efforts.

10. Coordination with the aboriginal site investigation. The presence of both historical and Indian materials at Riv-653 provides a rare opportunity to look for evidence of culture contacts. Each excavation

expands the area which the other has examined, and combining the data obtained, e.g., about soils, would provide a broader picture of the whole site. If the prehistoric archaeologists have recovered historic artifacts, they should be carefully evaluated to determine if they represent discards from the adobe or acculturation by the Native Americans. Bandini and the Cotas almost certainly employed Indian labor in constructing the adobe and caring for its flocks; if the Indian site proves to be contemporary with the adobe, it would be an almost unprecedented research opportunity.

11. Excavation. As a result of the research accomplished in Phases 1 and 2, it is now possible to offer specific directions for continuing the archaeological excavation program. Areas which present specific problems or need additional examination include the following:

- a. The artifact assemblage representing the early years from 1840 to 1860 is still very small, but has been localized on the south side of the adobe and down the slope. Additional effort would expand this assemblage.
- b. The retaining wall, Feature 3, should be examined at both ends to clarify how it relates to the structure and confirm the theories about its age and function.
- c. The corners of all walls and foundations should be examined to reveal whether the walls were built simultaneously (interlocked) or at different times (cold or butted joints).
- d. Excavations should be conducted at both stub walls and along the north facade; one of the objectives would be to test for evidence of early cooking facilities.
- e. Exteriors of the other three walls should be tested to see if the rock alignment interpreted as a drip line on the west side is present on the other sides which were protected by porches.
- f. Additional testing is needed on the south side to verify the HABS assertion of a brick floor.
- g. The area of the windmill and pumphouse should be examined to determine if this was re-use of an old well, and what construction practises were utilized.

- h. The two-inch cast iron pipe on the east wall should be traced inside and outside of the walls; interior connections could help to identify room functions and date of installation, while the outside terminus might reveal a cesspool or septic tank.
- i. In view of the tradition of an indoor kitchen at the southwest corner, testing should be conducted both inside and on the exterior.
- j. One or more of the standing walls should be sectioned both horizontally and vertically in order to obtain full dimensions of the bricks and the pattern of their laying.
- k. It is further recommended that excavations should be conducted in fall, winter, or spring when the soil is softer and the effects of high temperatures and smog can be avoided.

Although each focus of excavation suggested above will contribute information to one or more of the research objectives, the greatest data potential related to the Bandini-Cota years and interpretation of the original architecture will probably be realized archaeologically in areas a, c, d, and j above. Augmenting the early artifact assemblage will require a broad and dispersed effort, since no single deposition or feature has yet been located. Most of these studies are highly technical, and their success will depend upon expertise to make meaningful observations and interpretations.

12. Public interpretation. The importance of visual interpretation, as illustrated in the line drawings presented as scenarios, is emphasized. Developed renderings of how the building may have looked, postulated activities of construction and rancho life, sequential photographs of the remains at different stages, and three-dimensional models are all useful as public presentations. The making of adobe bricks from on-site clay, recommended as scientific, experimental archaeology, would at the same time be an interesting participatory event for the public.

10. CONCLUSIONS

The brief Phase 2 test excavation has demonstrated the existence of significant subsurface archaeological deposits and confirmed the importance and research potential of the Bandini-Cota Adobe as a structure. The remains, both above and below the ground, constitute an unusual opportunity to achieve objective information on the life of a period, on the building techniques, which are presently imperfectly known, and about the architecture of those momentous, germinal times.

It had been advanced as a hypothesis in the proposal (Greenwood and Frierman 1983) that the cultural materials would represent transition from the Mexican/Hispanic Colonial tradition to the Euro-American or Yankee patterns which emerged rapidly after the Gold Rush, California statehood, and the spurt of industrialization and local production prompted by California's isolation during the Civil War. The ceramics illustrate this sequence; types typical of the mid nineteenth century such as the Chinese export porcelains and Southern California Brown Wares gradually admitted early British imports including shell edge and pale blue transfer printed types, an assemblage replaced later in the century by undecorated white wares. The lack of Majolica in the work to date helps to define the end of trade in this diagnostic type.

Trash disposal practises also appear to have shifted through time. The early materials, including the ceramics, bone butchered in the Californio manner, and discarded brea roofing encountered thus far, seem localized on the south side of the adobe and down the slope, whereas the later refuse such as white wares, bottles, domestic and personal items, and building materials from later alterations were discarded in prepared pits on the flat west of the structure. Other remains not examined during this investigation include sheet trash on the surface at a distance west of the adobe in an elderberry (Sambucus sp.) grove and in an unnamed ravine, both seemingly of recent origin, and a broadly dispersed scatter of animal bone north of the adobe.

The structure itself illustrates a very brief period of compromise between the early styles and methods of adobe construction and the rapid spread of Yankee traits which followed the completion of Thomas Larkin's house in Monterey in 1837. The Bandini-Cota Adobe contains traits of both traditions: the use of adobe and brea, siting, and lack of a chimney are among the elements recognized as typical of the Mission and Colonial periods, while the inside stairway, dormer, sash windows, hip roof, pediments, millwork, and other details - whenever added - reflect Euro-American influences. Various scenarios have been proposed about the sequence and direction of the changes, and it is emphasized that the remains are a unique laboratory for the study of architectural history. They are neither preserved and thus inaccessible to study, like the Workman, Yorba-Slaughter, Olivas, Los Alamitos, or Temple Adobes, nor totally destroyed like the Ontiveros Adobe and others which are now lost to study.

Much new information has already been gained during the test. The presence of a retaining wall on the edge of the bluff had not been recorded previously, and the alignment interpreted as a drip line against the west wall is a detail newly added. Evidence was recovered of the original brea roofing, the technique of plastering, and an apparent difference in the coursing of the foundations. Many new questions were raised about the adobe, and specific directions outlined for continuing archaeological, architectural, and documentary research.

It may not ever be possible to attribute any of the early artifacts to Juan Bandini himself; his ownership of the adobe was brief, and his occupation was probably intermittent. The cultural materials of the middle nineteenth century could be either his or, more likely, those of Leonardo and Maria Ines de los Dolores Yorba Cota (Figure 14). It would be tempting to ascribe the Yankee characteristics of the adobe to the brief years of Anglo ownership between 1843 and 1849, but David Alexander only owned the property for a brief year in 1843-1844

Figure 14



Leonardo and Maria Ines Cota

(Courtesy: Western History Collection, Los Angeles County Museum of Natural History)

(TCR 1983:70) and there is no evidence that Isaac Williams ever occupied the adobe during his ownership from 1844 to 1849 (TCR 1983:72). The dating of many of the architectural details (Girvigian, personal communication 1983) suggests instead that the major changes were instituted shortly after the transfer to Bernardo Yorba in 1849. Yorba had already constructed his own adobe of two stories, he had wealth, and his household included many servants and laborers, even a carpenter (TCR 1983:79-81). Whether actually undertaken by Yorba or soon after the newly married Cotas moved to the site in 1850 (TCR 1983:98), important changes were probably made about this time, before the fortunes of Leonardo Cota began to decline. Repairs and minor changes no doubt continued, but the undetailed expenditures for building materials incurred in 1895-1897 (TCR 1983:149) were probably related more to maintenance than major remodeling, since the household included laborers only in 1860, the family's financial status declined after 1862, and the adobe itself was sold in 1897 (TCR 1983:130-150).

The adobe brick was the material which, more than any other single factor, determined the architecture of California (Whitehead 1980:72). Throughout the Hispanic period, structures of stone or fired tile were the exception rather than the rule, and these were primarily ecclesiastical in function. The adobe brick was responsible for the heavy walls and broad foundations, limited openings, projecting eaves, plain wall surfaces, and popular use of the porch or corredor which served a number of purposes: to facilitate circulation and access to the interior rooms, to shelter the exposed walls from the effects of weather, and to provide comfortable outdoor working areas. Of the older adobes known in California, very few have standing remains and a documented history, and of those which survive, most are either restored or otherwise inaccessible to research. Nationwide, of the nearly 20,000 historic buildings described by HABS during its 50 years, it is estimated that some 30% have already been razed. As one of the founding architects of the National Park Service stated, "If the great number

of our antique buildings must disappear through economic causes, they should not pass into unrecorded oblivion" (Peterson 1983:3).

This record can be developed far beyond the photographs and drawings of a facade which represents the ultimate - but not the original - appearance of the building. With the information already recovered, and directions for continuing research which have been proposed, the site of the Bandini-Cota Adobe has the potential to become a prime source for the study of ranch life and architecture during the crucial period that witnessed the transformation of pastoral Hispanic Alta California, a remote territory of Mexico and Spain, to modern California, scene of rapid development and diffusion of new ideas, new technologies, and new influences transplanted by settlers from different places and diverse traditions. With the sharpened research focus, a technical field strategy, and interdisciplinary approaches to scientific analysis, the Bandini-Cota Adobe can answer questions with broad implications far beyond its acknowledged importance to the local community.

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Girvigian, Raymond, F.A.I.A.. South Pasadena.

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APPENDIX

Table 14. Occurrence of Glass Fragments

Location	Clear	Pane	Lt. Olive	Olive	Ok. Olive	Amber	Brown	Aqua	Lt. Green	Green	Chimney	Milk	Total
Unit D													
20-30	2.4	0.5	-	-	-	-	-	-	-	-	-	-	2.9
30-40	-	-	-	-	-	-	0.8	-	-	-	-	-	0.8
70-80	1.0	-	-	-	-	-	-	-	-	-	-	-	1.0
90-100	-	5.0	-	-	-	-	-	-	-	-	-	-	5.0
100-110	-	-	-	-	-	-	-	5.0	-	-	-	-	5.0
130-140	0.4	-	-	-	-	-	-	-	-	-	-	-	0.4
Shovel test 1	-	9.6	-	-	-	-	-	-	-	-	-	-	9.6
Shovel test 2	13.3	-	-	-	-	-	-	-	-	-	-	-	13.3
Shovel test 4	15.3	8.1	-	25.4	-	-	1.7	-	-	-	0.4	8.4	59.3
Trench 1	7.7	63.3	-	-	-	-	22.2	-	3.4	-	-	-	96.6
South ravine	-	2.2	-	-	-	-	-	-	-	-	-	-	2.2
Auger tests													
S100/W65	2.5	-	-	-	-	-	-	-	-	-	-	-	2.5
S105/W55	0.4	-	-	-	-	-	-	-	-	-	-	-	0.4
S105/W60	-	1.4	-	-	-	-	-	-	-	-	-	-	1.4
S110/W75	20.0	-	-	-	-	-	-	-	-	-	-	-	20.0
S115/W50	-	0.4	-	-	-	-	-	-	-	-	-	-	0.4
S120/W70	0.1	-	-	-	-	-	-	-	-	-	-	-	0.1
Depress. 4	-	1.0	-	-	-	-	-	-	-	-	-	-	1.0
Depress. 7	11.1	-	-	-	-	-	-	-	-	-	-	-	11.1
Phos. test 13	1.3	-	-	-	-	-	-	-	-	-	-	-	1.3
Total in gr	334.3	235.0	10.2	205.4	5.7	31.5	7,206.7	25.5	16.3	2.1	3.5	8.4	8,084.6

Table 14 (Continued)

Location	Clear	Lt. Olive	Pale Olive	Lt. Olive	Dk. Olive	Amber	Brown	Aqua	Lt. Green	Green	Chimney	Milk	Total
Feature 1	102.6	-	10.2	180.0	5.7	31.5	7,091.3	-	-	-	-	-	7,421.3
Feature 2	39.2	20.9	-	-	-	-	5.1	-	-	-	0.5	-	65.7
Feature 3	-	3.0	-	-	-	-	-	-	-	-	-	-	3.0
Unit A													
40-50	-	-	-	-	-	-	80.0	-	-	-	-	-	80.0
60-70	91.7	-	-	-	-	-	-	-	-	-	-	-	91.7
70-80	-	-	-	-	-	-	-	-	12.9	-	-	-	12.9
90-100	0.8	-	-	-	-	-	-	-	-	-	-	-	0.8
160-170	2.0	-	-	-	-	-	-	-	-	-	-	-	2.0
Unit B													
40-50	-	1.8	-	-	-	-	-	-	-	-	-	-	1.8
50-60	-	2.2	-	-	-	-	-	-	-	-	-	-	2.2
60-70	-	3.0	-	-	-	-	-	-	-	-	-	-	3.0
70-80	-	-	-	-	-	-	-	5.0	-	-	-	-	5.0
80-90	-	-	-	-	-	-	-	6.4	-	-	-	-	6.4
100-110	-	1.3	-	-	-	-	-	-	-	2.1	-	-	3.4
110-120	12.0	60.5	-	-	-	-	-	-	-	-	1.5	-	74.0
120-130	-	16.5	-	-	-	-	-	-	-	-	1.1	-	17.6
Unit C													
0-10	0.7	13.7	-	-	-	-	-	-	-	-	-	-	14.4
10-20	-	17.5	-	-	-	-	-	-	-	-	-	-	17.5
20-30	8.7	-	-	-	-	-	-	-	-	-	-	-	8.7
40-50	1.1	2.8	-	-	-	-	5.6	-	-	-	-	-	9.5
50-60	-	0.3	-	-	-	-	-	9.1	-	-	-	-	9.4

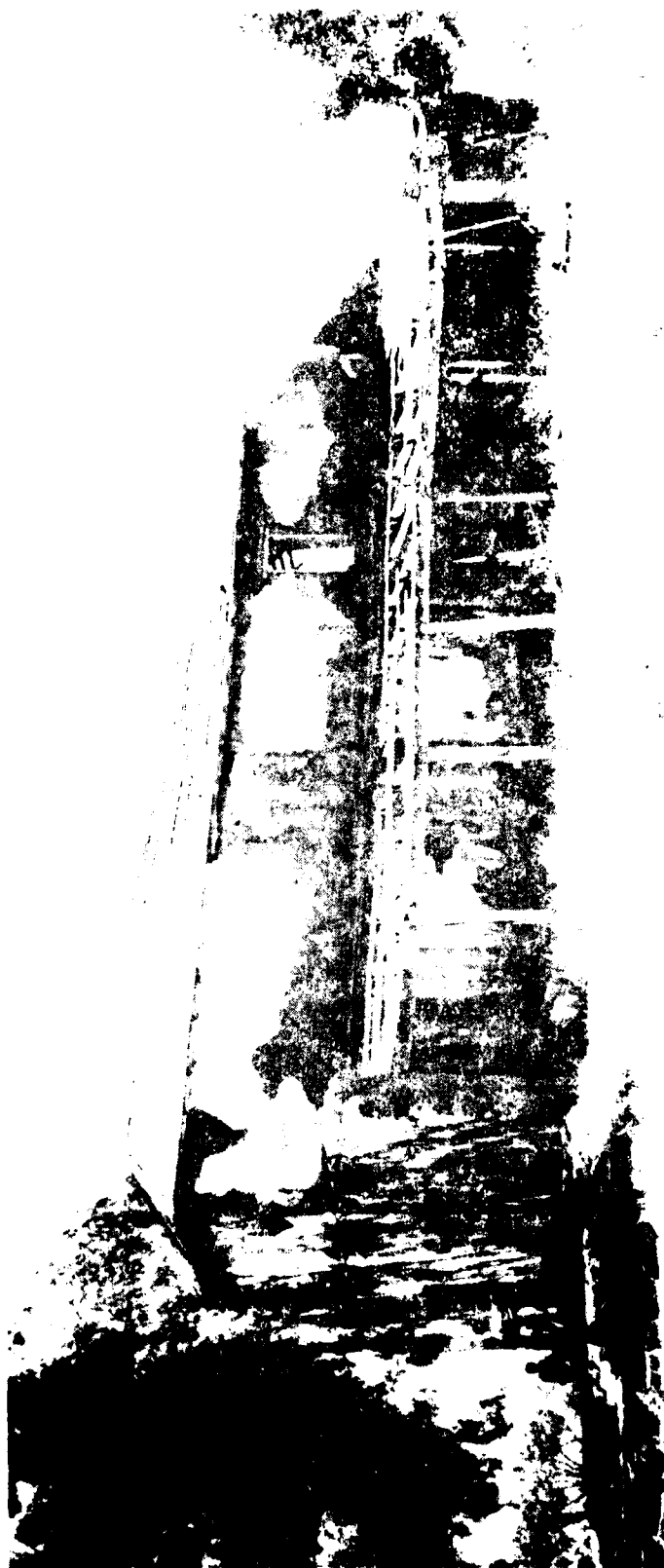
Table 15. Occurrence of Buttons

Cat. No.	Color/Material	Diam.	Comments
<u>GLASS</u>			
<u>Feature 1</u>			
284	white	0.8	3 hole, depressed center circle
285	black	1.1	4 hole, depressed center circle
289 - 4 ex.	white	1.1	4 hole, depressed center circle
290	white	1.0	4 hole, depressed center circle
291	white	0.9	4 hole, depressed center circle
292	white	0.7	3 hole, depressed center circle
293 - 4 ex.	white	1.5	4 hole, depressed center circle
294	white	1.85	2 hole, saucer shape
301	blue	1.2	4 hole, depressed center circle
302 - 2 ex.	white with blue dot rosettes	1.2	4 hole, depressed center circle
<u>Unit B</u>			
110-120			
478 - 2 ex.	black	1.4	4 hole, depressed center circle
479	gray/blue	1.1	4 hole, depressed center circle
120-130			
492	black	1.5	4 hole, depressed center circle
<u>Feature 2</u>			
718	white	1.1	4 hole, depressed center circle
<u>Auger test, S115/W50</u>			
878	black	1.1	4 hole, depressed center circle
<u>METAL</u>			
<u>Feature 1</u>			
283	cuprous	1.9	ring loop shank
286	cuprous	1.6	no perforation or shank, ?
<u>Unit B</u>			
110-120			
480	ferrous	1.5	2 hole, depressed center
120-130			
494	ferrous	1.85	Levi-type rivet
495	ferrous	1.6	Levi-type rivet
<u>Unit C</u>			
40-50			
606	ferrous	1.9	4 hole

Table 15 (Continued)

Cat. No.	Color/Material	Diam.	Comments
<u>SHELL</u>			
<u>Feature 1</u>			
295		2.0	2 hole, raised circle center
296 - 2 ex.		1.4	2 hole, raised circle center
297 - 2 ex.		1.7	2 hole, depressed center
298		1.2	2 hole, depressed center
299		2.3	4 hole, depressed center
300		0.6	4 hole, panty-waist
<u>Unit B</u>			
110-120			
459 - 5 ex.		1.3	2 hole, fish-eye
460		1.5	2 hole, recessed center circle
475		1.15	2 hole, recessed center circle
476		1.2	2 hole, recessed center circle
477		1.15	2 hole, fish-eye
120-130			
493		1.3	4 hole, recessed center circle
<u>PLASTIC</u>			
<u>Feature 1</u>			
303	black	1.8	2 hole, domed shape
304	black	1.2	raised dots on top, domed, brass loop shank
305	black	1.7	impressed shield, brass loop shank
306 - 2 ex.	black and gold	1.9	sew-through shank
307	gold and black	1.9	brass loop shank
<u>COLLAR BUTTONS</u>			
<u>Feature 1</u>			
212	brass	1.4	
287	cuprous	1.3	
288	plastic, blue	1.0	

Figure 15



North Atlantic Ocean, North of
Hague, 1968; Library of Congress

Figure 16



From Photograph from Northwest
PACIFIC Library of Congress

Figure 17



North and West Elevation
CHAB-1936; Library of Congress

Figure 18



View of South Front and East Side
CHAB 1936; Library of Congress

ALL WALLS ARE OF ADOBE BRICK 5'0" X 6" X 12" WITH 1 JOINTS.
EXTERIOR & INTERIOR WALLS WERE PLASTERED WITH 1/4 OF LIME PLASTER, 3/4 REMAINS.
THE FOOTINGS ARE OF FIELD STONES LAID IN ADOBE MORTAR

ALL EXTERIOR WOOD WORK WHITE WASHED AND INTERIOR WOOD TRIM WAS PAINTED GREY.

T&G FLOOR WAS LAID OVER SLEEPERS IN FIRST STORY DIRECTLY OVER SOIL, FLOORING IN ROOM NO.2 STILL REMAINS.

THEIR WAS A BASE AND MAINSCOT RAIL IN ROOMS 1 & 2 OF FIRST STORY AND ROOM 2 SECOND STORY.

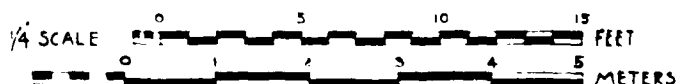
ALL ORIGINAL SASH & DOORS ARE MISSING. ALL WINDOWS ORIGINALLY WERE PROTECTED WITH 5 IRON OR WOOD BARS



WORKS PROGRESS ADMINISTRATION
OFFICIAL PROJECT NO. 65-1715
UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE
THE COTA HOUSE
PRADO - RIVERSIDE, COUNTY CALIFORNIA

MOOD TRIM WAS PAINTED GREY.
LY OVER SOIL FLOORING IN ROOM NO 1 STILL REMAINS.
1ST STORY AND ROOM 2 SECOND STORY.
WALLY WERE PROTECTED WITH 5 IRON OR WOOD BARS

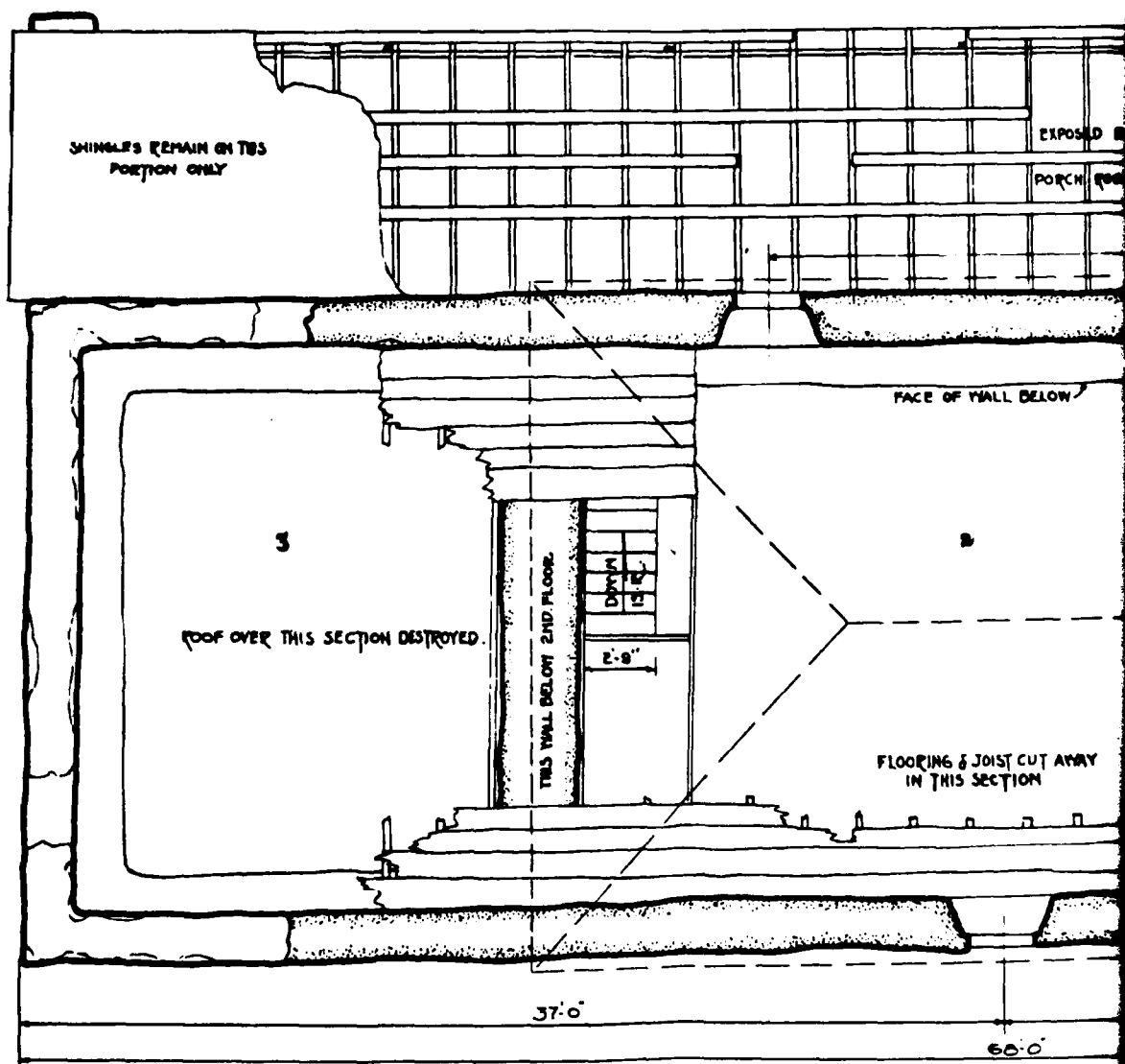


NAME OF STRUCTURE
THE COTA HOUSE
PRADO - RIVERSIDE COUNTY - CALIFORNIA

SURVEY NO
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332.

HISTORIC AMERICAN
BUILDINGS SURVEY
SHEET 1 OF 3 SHEETS

LIBRARY OF CONGRESS
PHOTODUPLICATION SERVICE

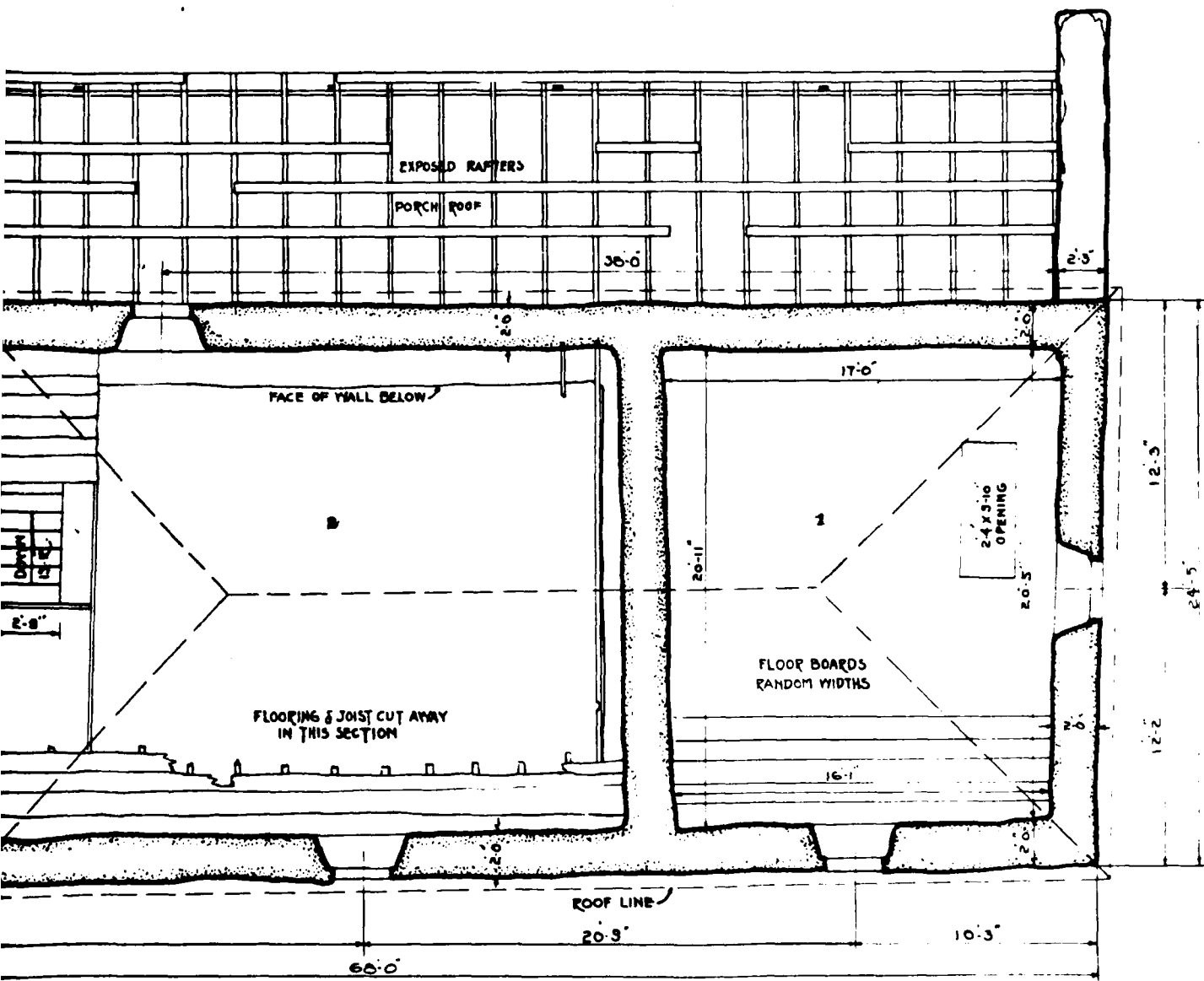


SECOND FLOOR PLAN

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SECOND FLOOR PLAN



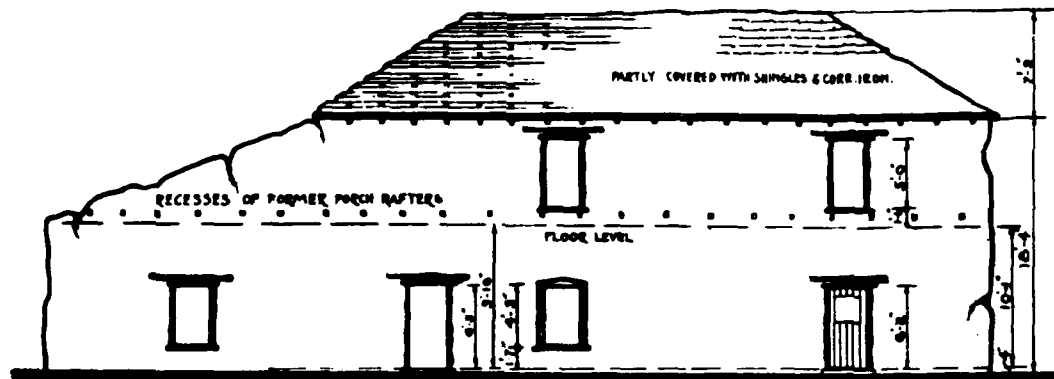
NAME OF STRUCTURE
THE COTA HOUSE
 PRADO - RIVERSIDE COUNTY - CALIFORNIA



SURVEY NO
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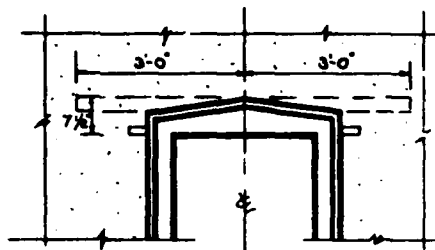
HISTORIC AMERICAN
 BUILDINGS SURVEY
 SHEET 2 OF 3 SHEETS

LIBRARY OF CONGRESS
 PHOTODUPLICATION SERVICE

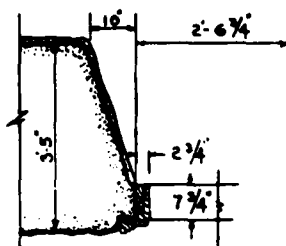


S.E. ELEVATION

1/8" SCALE.



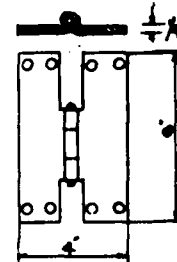
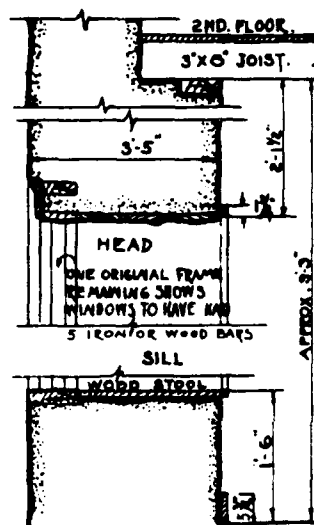
EXTERIOR ELEVATION
ORIGINAL TRIM REMAINS ON ONE WINDOW ONLY



JAMB

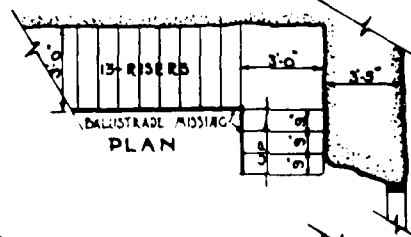
WINDOW DETAILS

1/2" SCALE.

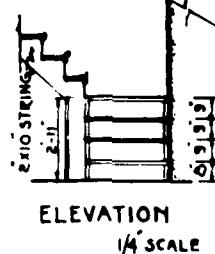


HARDWARE & TRIM

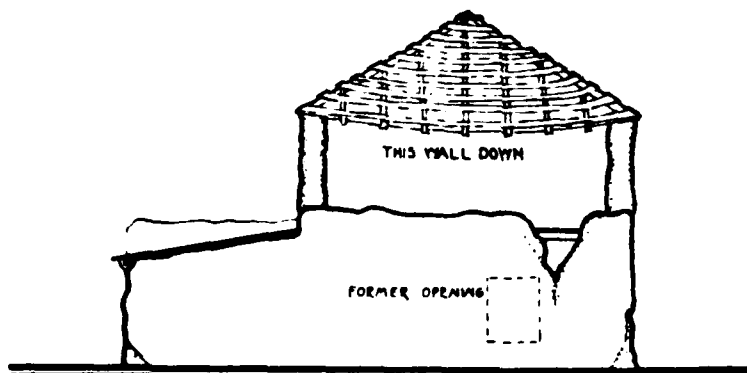
3\"/>



STAIR
DETAIL



ELEVATION
1/4\"/>



S.W. ELEVATION

1/8\"/>

9 HOWARD FENTON, DEL.

WORKS PROGRESS ADMINISTRATION
OFFICIAL PROJECT NO 65-1715.
UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE
THE COTA HOUSE
PRADO-RIVERSIDE COUNTY-CALIF.



INDIAN SITE MATERIALS

Fragments of imported lithic materials and a few artifacts reflect the co-terminous aboriginal site Riv-653 being investigated separately under a different contract. The artifacts are limited to two possible mano fragments, a bowl rim, flake scraper and knife, and a pointed tool; the bulk of the materials are basalt and chert waste lacking either bulbs of percussion or secondary flaking.

Mano fragments 782 and 854, both less than 7.0 cm in size and burned, were made of basalt and a granitic cobble, respectively. The former was recovered from Shovel Test 2, while the latter was exposed on the surface of the southeast slope. There is desert varnish on the broken surface of 782, a suggestion of age. The rounded rim of a basalt bowl fragment (676) from Unit D, 110-120 cm, measured 3.5 x 2.5 cm and was 1.5 cm thick at the break.

The flaked artifacts are all basalt. A unifacial flake scraper (767) was located in Shovel Test 1; it is 9.6 x 7.4 x 3.5 cm. Two items occurred on the surface of the southeast slope; a unifacial flake knife with some cortex was 14.0 x 6.8 cm (853), and a pointed tool (852) was 7.5 x 5.2 x 1.4 cm. A flake with bulb of percussion (851) was on the same surface. Nearby on the slope were heavily weathered fragments of Pismo clam (Tivela stultorum).

The scarcity of surface materials may be partly attributed to collections made over the years by various archaeologists who had studied the site, almost 150 years of historical occupation, and bulldozing of the area in 1938 (TCR 1983: Addenda). The occurrence of lithic waste in the upper levels of Unit C (Table 16) is interpreted as the result of disturbance and backfilling associated with the construction of the retaining wall during the nineteenth century. This distribution is in sharp contrast to the provenience within Unit B where 97% of such material occurred between 130 and 180 cm.

None of the material is diagnostic of either chronology or cultural affiliation, and such conclusions will have to be drawn from the more

extensive excavations conducted at greater distance from the adobe by the prehistoric site study team. Aside from the Southern California Brown Ware described in this report, there were no trade beads or other contact period artifacts which might have provided evidence of a contemporary Indian rancheria. In the opinion of James Brock, the artifacts were entirely consistent with the other "Millingstone Complex" sites which cover this section of the terrace (personal communication 1983).

Table 16. Occurrence of Chipping Waste

Locus	Level	Cat.	Weight in grams			Total
			Basalt	Chert	Granitic	
Unit A	150-160	379		78.3		78.3
Unit B	40-50	395		6.7		
	130-140	509	226.8			
	140-150	517	16.5			
	160-180	524	1.5			
Sub total			244.8	6.7		251.5
Unit C	0-10	533		4.3		
		540		126.4		
	10-20	560	13.5			
	20-30	577	26.0			
	30-40	584	16.5			
	80-90	637		3.0		
Sub total			56.0	133.7		189.7
Unit D	30-40	1019		10.3		
	40-50		2.6			
	50-60			0.1		
	70-80		0.9			
	80-90		13.5			
	140-150			1.3		
Sub total			17.0	11.7		28.7
Shovel test 1						
	0-30	745			6.0	
	West ext.	766	76.7			
Shovel test						
	Feat. 3	805	5.3			
Surface		850		22.1		
Sub total			82.0	22.1	6.0	110.1
Total			399.8	252.5	6.0	658.3